TEST REPORT
IEC 62368-1
Audio/video, information and communication technology equipment
Part 1: Safety requirements

Report Number ..... :	**466002**
Date of issue ..... :	2022-06-10
Total number of pages ..... :	159
Name of Testing Laboratory preparing the Report ..... :	Nemko S.p.A.
Applicant's name ..... :	Aesys SpA
Address ..... :	Via Artigiani, 41 – 24060 Brusaporto (BG) – Italy
Test specification:	
Standard ..... :	IEC 62368-1:2014
Test procedure ..... :	CB Scheme
Non-standard test method ..... :	N/A
TRF template used ..... :	IECEE OD-2020-F1:2020, Ed.1.3
Test Report Form No. ..... :	IEC62368_1D
Test Report Form(s) Originator ..... :	UL(US)
Master TRF ..... :	Dated 2021-02-04

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Test Item description ..... :	Monitor with accessory	
Trade Mark(s) ..... :	aesys (aesys)	
Manufacturer..... :	Same as Applicant	
Model/Type reference ..... :	Monitor: CPTOU4615 **a b**L3ARI**c**H-**defghi**Z0 (see page 12 for details of speaking code) Sound bar (accessory): Slim Soundbar 46'' MC ALC	
Ratings ..... :	Monitor: 2.7 A, 220-240 Vac, 50/60 Hz IP65, class I equipment Sound bar (accessory): 8-30 Vdc, 3 A, IP65, Class III equipment	
Responsible Testing Laboratory (as applicable), testing procedure and testing location(s):		
☒ **CB Testing Laboratory:**		
Testing location/ address.....:	Nemko S.p.A. Via del Carroccio, 4 – 20853 Biassono (MB) – Italy	
Tested by (name, function, signature) .....:	Daniele Dario Amati (Project Handler)	
Approved by (name, function, signature).....:	Giulio Tassinari (Verificator)	
☐ **Testing procedure: CTF Stage 1:**		
Testing location/ address..... :		
Tested by (name, function, signature) .....:		
Approved by (name, function, signature).....:		
☐ **Testing procedure: CTF Stage 2:**		
Testing location/ address.....:		
Tested by (name, function, signature) .....:		
Witnessed by (name, function, signature).....:		
Approved by (name, function, signature).....:		
☐ **Testing procedure: CTF Stage 3 :**		
☐ **Testing procedure: CTF Stage 4:**		
Testing location/ address.....:		
Tested by (name, function, signature) .....:		
Witnessed by (name, function, signature).....:		
Approved by (name, function, signature).....:		
Supervised by (name, function, signature) .....:		

List of Attachments (including a total number of pages in each attachment):

Attachment 1: Measurement Uncertainty (4 pages)
Attachment 2: Photos (35 pages)
Attachment 3: European Group Differences and National Differences (9 pages)
Attachment 4: Australia and New Zealand National Differences (11 pages)
Attachment 5: Australia and New Zealand National differences according to IEC 60950-1 (8 pages)
Attachment 6: Electric diagrams and layout (1 folder file)
Attachment 7: CB certificate and CB test report of TFT panel (1 folder file)
Attachment 8: Critical component list of PC board (1 folder file)*
Attachment 9: CB certificate and CB test report of AC/DC switching power supply (1 folder file)*
Attachment 10: Critical component list of Textspeak electronic boards (1 folder file)*
Attachment 11: IP65 test reports (1 folder file)
Attachment 12: Table B.4 of PC board (1 folder file)*
Attachment 13: Critical component list of electronic board of Sound bar (1 folder file)*
Attachment 14: Electrical drawings and layout of electronic board of Sound bar (1 folder file)*
Attachment 15: Table B.4 of electronic board of Sound bar (1 folder file)*
Attachment 16: Critical component list of electronic board of Fibre-Ethernet converters (1 folder file)*
Attachment 17: Table B.4 of electronic board of Fibre-Ethernet converters (1 folder file)*
Attachment 18: Electrical drawings and layout of electronic board of Fibre-Ethernet converters (1 folder file)*
Attachment 19: Yellow card of material used for Optical fibre connector (1 folder file)*

*Attachments 8, 9, 10, 12, 13, 14, 15, 16, 17, 18 and 19 contain restricted information and are available only under permission of document owner (manufacturer of parts).

Summary of testing:

This project is an update of previous test report ref. no. 445992 issued by Nemko S.p.A. to include the following modifications:

- Introduction of Fibre-Ethernet converter with dedicated optical fibre connector on bottom side of enclosure. Considering that Fibre-Ethernet converter is an internal component of monitor and that Optical fibre connector is of same family of LAN connector (Harting PushPull V4 series).
- Speaking code has been introduced, to cover all possible combination of monitors.

Additional tests have been performed to cover Fibre-Ethernet converters.

Here below the project history of this product:

Project number	Date of issue	Main modifications introduced:
422879	2021-11-15	Original reports according to IEC 62368-1:2014 and IEC 60950-22:2016
455992	2022-01-13	Addition of accessory Sound bar mod. Slim Soundbar 46'' MC ALC.
466002	2022-06-10	Introduction of Fibre-Ethernet converter. Optical fibre connector is an alternative to Ethernet connector in the bottom side of enclosure. Speaking code has been introduced, to cover all possible combination of monitors

General considerations:

- **General.** Equipment may be connected to an external sound bar accessory (mod. Slim Soundbar 46'' MC ALC manufacturer by Aesys). This device has been connected to equipment during all tests as load.
- **Cl. 4.1.1.** TFT panel mod. P460HVN04.3 manufactured by AU Optronics Corporation with relative electronic boards (driver board mod. 4H+V341-304) is separately approved according to IEC 60950-1:2005+A1:2009+A2:2013 (see separate CB certificate ref. no. JPTUV-069262 issued by TUV Rheinland Japan and test report ref. no. 11044853 001 issued by TUV Rheinland Taiwan). According

to information contained inside CB test report of TFT panel:
- The subassembly was submitted and evaluated for use at a maximum ambient temperature of +50 °C (+50 °C considered for equipment under test).
- The subassembly is intended to be supplied by SELV circuits, which with energy level less than 240 VA (ES1 supply in the equipment under test, source supplying subassembly inside equipment under test is not limited to 240 VA, anyway no additional requirements are included in IEC 62368-1 for such energy sources, since circuits with available power above 100 VA are classified as PS3).
- The output of LED driver has been evaluated as a hazardous voltage secondary circuit (it has been considered as a ES3 derived from ES1 in the equipment under test; access to such ES3 energy source is prevented for ordinary and instructed persons.
- The front panel (LCD cell) was considered providing double insulation (LCD cell has been considered to provide double insulation also in the equipment under test, moreover, LCD cell is protected by a 7.14 mm thick glass).
- Minimum clearances and creepage distances between LED driver and front LCD cell (assessed as a user accessible area) were not required; overall compliance shall be investigated in the complete information technology equipment (LCD cell is not accessible in the equipment under test, no minimum clearances or creepage distances are required);
- The following end-product enclosure are required: fire, electrical (enclosure of equipment under test serves as fire, electrical and mechanical enclosure).
- Tests were conducted with subassembly connected to a DC source with an over current protection limit of 12 A (during single fault condition test performed inside CB test report of subassembly, protection does not rely on external overcurrent protection, so supplying TFT panel from output of AC/DC switching power supply has been accepted).
Since Australia/New Zealand national differences have not been considered inside IEC 60950-1 CB test report of subassembly, so such requirements have been evaluated in the appliance, see Attachment 5 for details.

- **Cl. 4.1.1.** TFT panel mod. P460HVN04.4 manufactured by AU Optronics Corporation is same as mod. P460HVN04.3, except for some graphical characteristics and a lower backlight power. Both models of TFT panel are separately approved according to IEC 60950-1:2005+A1:2009+A2:2013 (see separate CB certificate ref. no. JPTUV-069262 issued by TUV Rheinland Japan and test report ref. no. 11044853 001 issued by TUV Rheinland Taiwan). Considering that, it has been listed as alternative to mod. P460HVN04.3 without any other test.
- **Cl. 4.1.2.** AC/DC switching power supply mod. UHP-500R-24 manufactured by Mean Well is separately approved according to IEC 62368-1:2014 (see CB certificate ref. no. JPTUV-101581-M1 issued by TUV Rheinland Japan and CB test report ref. no. 50277121 001 and Amendment 1 to main report ref. no. 50277121 002), issued by TUV Rheinlan Taiwan. According to information contained inside CB test report of AC/DC switching power supply:
  - The subassembly was submitted and evaluated for use at a maximum ambient temperature of +50 °C (+50 °C considered for equipment under test).
  - The subassembly was submitted and evaluated for operation at 100-240 V, 50/60 Hz, OVC II, tolerance of ±10%, PD2 and altitude up to 5000 m (100-120/220-240 V, 50/60 Hz, OVC II, tolerance of ±10%, PD2 and altitude up to 2000 m considered for equipment under test)
  - The subassembly has not been investigated for field wiring (connection to a.c. mains supply is made by mains connector on enclosure inside equipment under test).
  - The disconnect device shall be provided in the end product (mains plug has been considered as disconnect device in the equipment under test).
  - The output circuits are ES1 (ES1 considered in the equipment under test).
  - The maximum investigated branch circuit rating is 20 A (16 A considered in the equipment under test).
  - Proper bonding to the end-product main protective earthing terminal is required (resistance of protective bonding conductors and terminations test has been conducted between protective earthing terminal of equipment under test and earthing connections of AC/DC switching power supply).
  - The following end-product enclosure are required: mechanical, fire, electrical (enclosure of equipment under test serves as fire, electrical and mechanical enclosure).
  Moreover, temperature of internal switching transformer T1 has been monitored as a reference and temperature found on its windings is much lower than temperature limit (Class B, limit 110 °C).
- **Cl. 5.4.4.** Solid insulation is provided by following components/subassemblies:
  - AC/DC switching power supply. This subassembly is separately approved according to IEC 62368-

1, it has been considered to comply with requirements since used within its rated environmental conditions.
- TFT panel. This subassembly is separately approved according to IEC 60950-1, it has been considered to comply with requirements since used within its rated environmental conditions.
- Sleeving applied over all mains conductors. Thickness of sleeving is 0.60 mm and it has been tested according to Cl. 5.4.9 with positive results.
In other parts of equipment (e.g. heaters) solid insulation is used as basic insulation or functional insulation only.
Working voltages with frequencies above 30 kHz only inside separately approved AC/DC switching power supply.

- **Cl. 5.6.2.** Protective earthing conductor is part of detachable power supply cord, that has not been considered inside this test report. Requirements of this clause have evaluated taking into account information concerning supply cord included inside instructions.
- **Cl. 6.2.** WiFi/LTE Antenna and PMR Antenna have been considered as PS1 circuits, since they are connected to signals only.
- **Cl. 6.5.1** – To meet requirements of this clause, sleevings rated VW-1 are applied over:
  - Optical fibre cable;
  - Antenna cables (inside equipment);
  - Connection conductors of heating elements on front panel;
  - Conductors of magnetic contact;
- **Cl. 6.6.** Terminal block for audio cable is intended supply Sound bar. Sound bar is provided with its own fire enclosure, so its supply does not have to be limited below PS2 limits.
- **Cl. 8.7.** Monitor is intended to be fixed to a support. Adequate information concerning installation have been included inside user's manual. Equipment shall be connected by means of six M6 screws, of maximum length of 20 mm. These mounting means have been considered for testing.
  Sound bar is provided with four M6x15 screws for fixing on its bracket that, in turn, is fixed to enclosure of monitor by means of two M6x15 screws. Maximum torque is 9 Nm, as stated inside instructions.
- **Annex F.3.7**. Monitor and Sound bar are provided with a IP65 enclosure. Refer to separate test reports ref. no. 422879-1TRFEnvEx (for monitor) and 423304-1TRFEnvEx (for Sound bar) issued by Nemko S.p.A. IP index is correctly marking on main label of equipment.
- **Annex G.4.** Appliance-coupler of equipment shall not be accessible after installation of equipment. It can be accessible to skilled persons only. For this reason, equipment has been considered not an end product, but as a component for building-in.
- **Annex G.7.** Equipment is intended to be connected to a.c. mains supply by means of a detachable power supply cord. Power supply cord has not been considered in this test report. Equipment will be provided with a power supply cord suitable for country of sale. Inside instructions it is indicated that a power supply cord with cross-section of internal conductors of 1.5-2.5 mm^2 shall be used.
- **Annex L.** Mains plug has been considered as disconnect device of equipment. A statement concerning accessibility of socket-outlet has been included inside user's manual.
- **Annex M.10**. No reasonably foreseeable misuse has been considered likely to occur since:
  - battery is located in skilled access area only;
  - Temperature on battery is not exceeded in normal operating conditions
  - Range of environmental conditions for storage is within range of storage conditions for battery.

Tests performed (name of test and test clause):	**Testing location:**
Project 422879: All relevant tests performed on monitor model CPTOU4615 LS P3L3ARIO2H-4G1WTTSPFAEZ0 (with Fibre-Ethernet converter removed) Project 455992: All relevant tests performed on Sound bar mod. Slim Soundbar 46'' MC ALC Project 466002: Following test performed on monitor model CPTOU4615 LS P3L3ARIO2H-4G1WTTSPFAEZ0 (with both models of Fibre-Ethernet converter): - Cl. 4.6.2 (partial); - Cl. 5.4.1.4, Cl. 6.3.1, Annex B.2.6 (partial); - Annex B.4 (partial); ***Note:*** The following Nemko technical procedures were also applied during testing: - WM L0177 General routines for using instruments at Nemko. - WM L1002: Measurement Uncertainty – Policy and Statement. **Statement of the measurement uncertainty:** See Attachment 1 for Measurement Uncertainty **Unless different values are declared in the test case, following ambient conditions apply for the tests:** - Ambient temperature 18-33 °C - Relative Humidity 30-70 % - Atmospheric Pressure 860-1060 hPa Equipment used for testing is recorded and saved into the company archive as instruments 422879INS, 455992INS and 466002INS. It will be made available on request.	Nemko Spa Via del Carroccio, 4 – 20853 Biassono (MB) –Italy

Summary of compliance with National Differences (List of countries addressed):

- European Countries (checked on IECEE website on June 2022)
- Australia & New Zealand (checked on IECEE website on June 2022)

☒ **The product fulfils the requirements of:**

- IEC 62368-1:2014
- EN 62368-1:2014+A11:2017
- AS/NZS 62368.1:2018

Including Corrigenda available on the date of issue of this test report.

Statement concerning the uncertainty of the measurement systems used for the tests

(may be required by the product standard or client)

☒ **Internal procedure used for type testing through which traceability of the measuring uncertainty has been established:**

Procedure number, issue date and title:

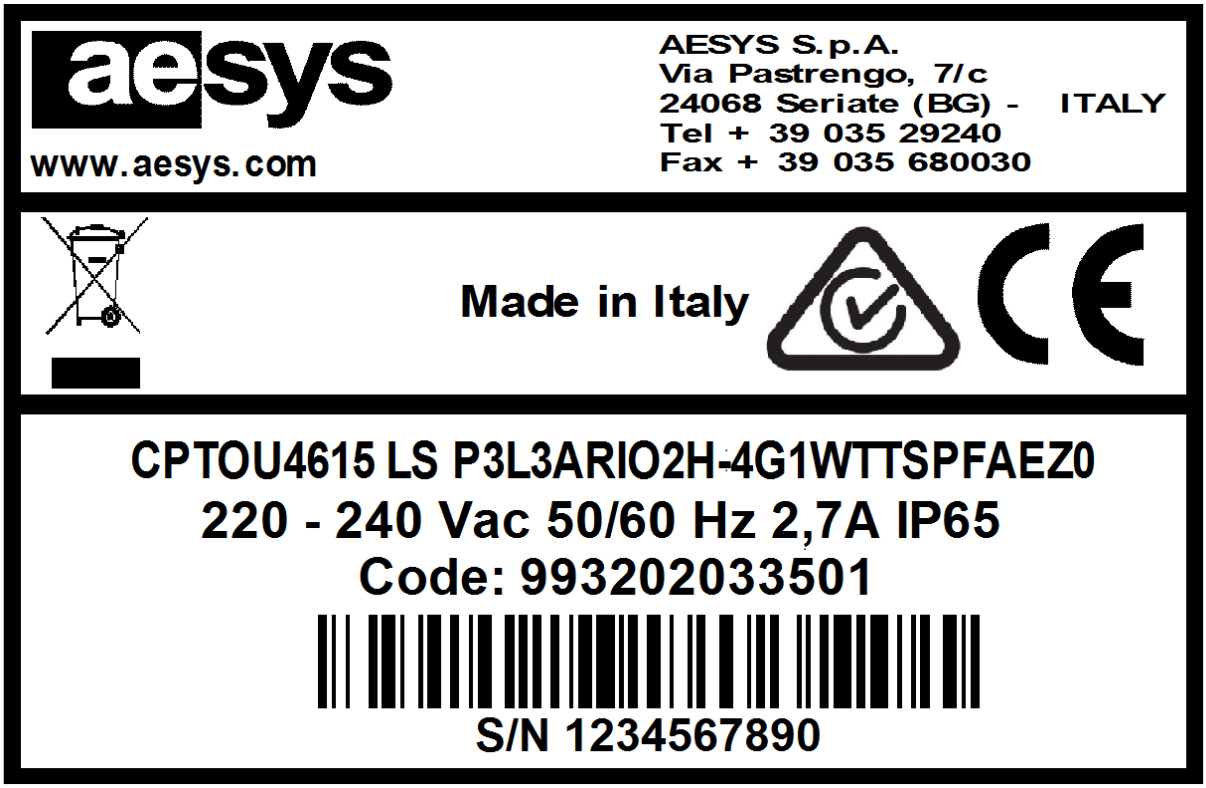
WM L1002 – Measurement Uncertainty – Policy and statement, rev. 22, dated 03-2021

Calculations leading to the reported values are on file with the NCB and testing laboratory that conducted the testing.

☐ **Statement not required by the standard used for type testing**

Copy of marking plate:

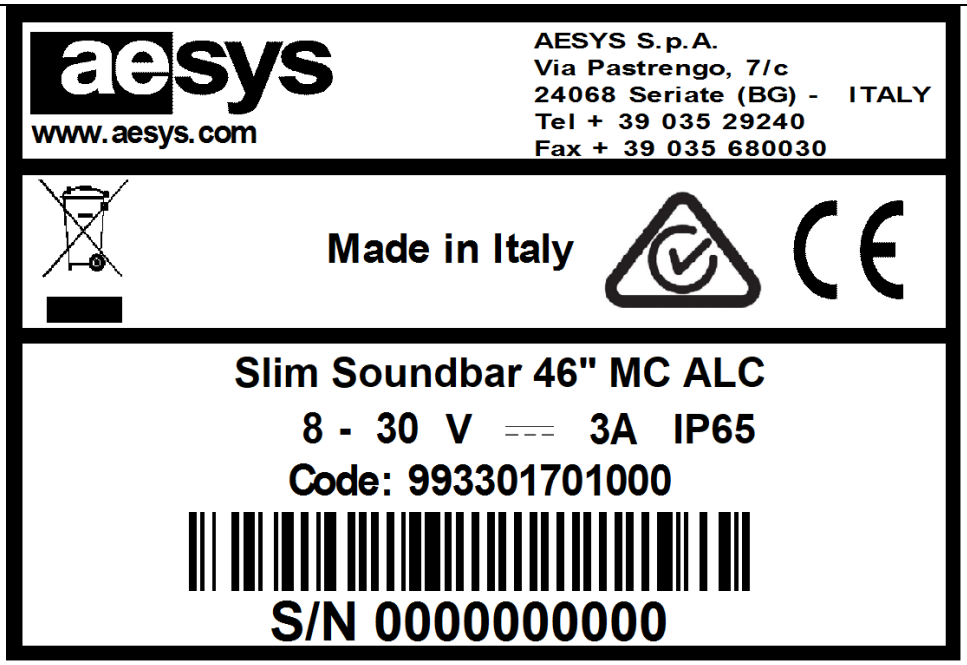
The artwork below may be only a draft. The use of certification marks on a product must be authorized by the respective NCBs that own these marks.



Marking label of equipment

In **Finland**: "Laite on liitettävä suojakoskettimilla varustettuun pistorasiaan"
In **Norway**: “Apparatet må tilkoples jordet stikkontakt”
In **Sweden**: “Apparaten skall anslutas till jordat uttag”
In **Denmark**: “Apparatets stikprop skal tilsluttes en stikkontakt med jord, som giver forbindelse til stikproppens jord.”

Marking for Norway, Sweden, Finland and Denmark



Marking label of sound bar

Calibration	All instruments used in the tests given in this test report are calibrated and traceable to national or international standards. Further information about traceability will be given on request.
Measurement uncertainty	The measurement uncertainty was calculated for each test and quantity listed in this test report, according to IEC Guide 115 and other specific test standard and is documented in Nemko Spa working manual WM L1002.
Assessment of conformity	The assessment of conformity for each test performed on the equipment is performed not taking into account the measurement uncertainty. The two following possible verdicts are stated in the report: P (Pass) - The measured values of the equipment respect the specification limit at the points tested. The specific risk of false accept is up to 50% when the measured result is close to the limit. F (Fail) - One or more measured values of the equipment do not respect the specification limit at the points tested. The specific risk of false reject is up to 50% when the measured result is close to the limit.

TEST ITEM PARTICULARS:	
Classification of use by ..... :	☒ Ordinary person ☐ Instructed person ☐ Skilled person ☒ Children likely to be present
Supply Connection ..... :	☒ AC Mains ☐ DC Mains ☐ External Circuit - not Mains connected - ☐ ES1 ☐ ES2 ☐ ES3
Supply % Tolerance ..... :	☒ +10%/-10% ☐ +20%/-15% ☐ +____%/ -_____% ☒ None (Sound bar)
Supply Connection – Type ..... :	☒ pluggable equipment type A - ☐ non-detachable supply cord ☒ appliance coupler ☐ direct plug-in ☐ mating connector ☐ pluggable equipment type B - ☐ non-detachable supply cord ☐ appliance coupler ☐ permanent connection ☐ mating connector ☒ other: connection cable between Monitor and Sound bar (Sound bar)
Considered current rating of protective device as part of building or equipment installation ..... :	16 A; Installation location: ☒ building; ☐ equipment
Equipment mobility ..... :	☐ movable ☐ hand-held ☐ transportable ☐ stationary ☒ for building-in ☐ direct plug-in ☐ rack-mounting ☒ wall-mounted
Over voltage category (OVC) ..... :	☐ OVC I ☒ OVC II ☐ OVC III ☐ OVC IV ☐ other: _____
Class of equipment ..... :	☒ Class I ☐ Class II ☐ Class III ☐ Class II with functional earthing ☒ Not classifed (Sound bar)
Access location ..... :	☐ restricted access area ☒ N/A
Pollution degree (PD) ..... :	☐ PD 1 ☒ PD 2 (inside enclosure) ☒ PD 3 (outside enclosure)
Manufacturer's specified maxium operating ambient ..... :	50 °C (for both monitor and Sound bar)
IP protection class ..... :	☐ IPX0 ☒ IP65 (for both monitor and Sound bar)
Power Systems ..... :	☒ TN ☒ TT ☒ IT – 230 V $_{L-L;}$ ☐ dc mains ☐ N/A
Altitude during operation (m) ..... :	☒ 2000 m or less ☐ _____ m
Altitude of test laboratory (m) ..... :	☒ 2000 m or less ☐ _____ m

Mass of equipment (kg) ..... :	☒ 107 kg (monitor) ☒ 2.5 kg (Sound bar)
Possible test case verdicts:	
- test case does not apply to the test object ..... :	N/A
- test object does meet the requirement ..... :	P (Pass)
- test object does not meet the requirement ..... :	F (Fail)
Testing ..... :	
Date of receipt of test item ..... :	2021-05-13
Date (s) of performance of tests ..... :	From 2021-09-20 to 2021-10-22 (project 422879) and from 2021-12-27 to 2021-12-30 (project 455992) and 2022-05-31 to 2022-06-09
General remarks:	
"(See Enclosure #)" refers to additional information appended to the report. "(See appended table)" refers to a table appended to the report. The phase of sampling / collection of equipment under test is carried out by the customer. Results indicated in this test report apply to samples as received. **Throughout this report a ☐ comma / ☒ point is used as the decimal separator.**	
Manufacturer's Declaration per sub-clause 4.2.5 of IECEE 02:	
The application for obtaining a CB Test Certificate includes more than one factory location and a declaration from the Manufacturer stating that the sample(s) submitted for evaluation is (are) representative of the products from each factory has been provided ..... :	☐ **Yes** ☒ **Not applicable**
When differences exist; they shall be identified in the General product information section.	
Name and address of factory (ies) ..... :	Aesys SpA Via Artigiani, 41 – 24060 Brusaporto (BG) – Italy
General product information and other remarks:	
Product Description – Equipment under test is a family of monitor for both indoor and outdoor use. They are class I equipment, provided with a metallic enclosure and a glass front panel. They have been considered as a pluggable equipment type A and they are intended to be connected by means of a detachable power supply cord. Appliance coupler shall not be accessible when equipment is completely installed, plug of power supply cord has been considered as disconnect device of equipment. Internally are provided the following components: - AC/DC switching power supply, that provides low voltage supply to all parts of equipment - Two heating elements (located on internal side of front cover of equipment), powered at mains voltage, use to warm the internal compartment in case of external very low temperatures - A relay controlling heating elements, together with its fuse-holders for heating elements. - A PC board - Fibre-Ethernet converter - Several low voltage boards (1609A, 1617B, 1718A, 1727, 1814, 1043A)	

- LCD panel with dedicated electronic boards
- 8 cooling fans in the rear side
- 4 cooling fans in the front side

The interface to external devices is the Ethernet connector or optical fibre connector on enclosure.

Equipment may be provided with WiFi/LTE antenna and with a PMR antenna.

Electrical ratings of equipment are the following:
2.7 A, 220-240 Vac, 50/60 Hz
Class I equipment IP65

Maximum recommended operating ambient temperature is +50 °C

Together with monitor is provided also an accessory. A sound bar may be located below the monitor and is intended to be supplied by the monitor only by means of Audio cable.
Inside Sound bar is located an electronic board that serves as audio amplifier and a loudspeaker.
Electrical ratings of accessory are the following:
8-30 Vdc, 3 A,
IP65, Class III equipment

S/n of model tested: 899707 (monitor), 0000903965 (Sound bar)

Model Differences –

This test report is intended to cover monitors described by the following speaking code:

CPTOU4615 **a b**L3ARI**c**H-**defghi**Z0 where:

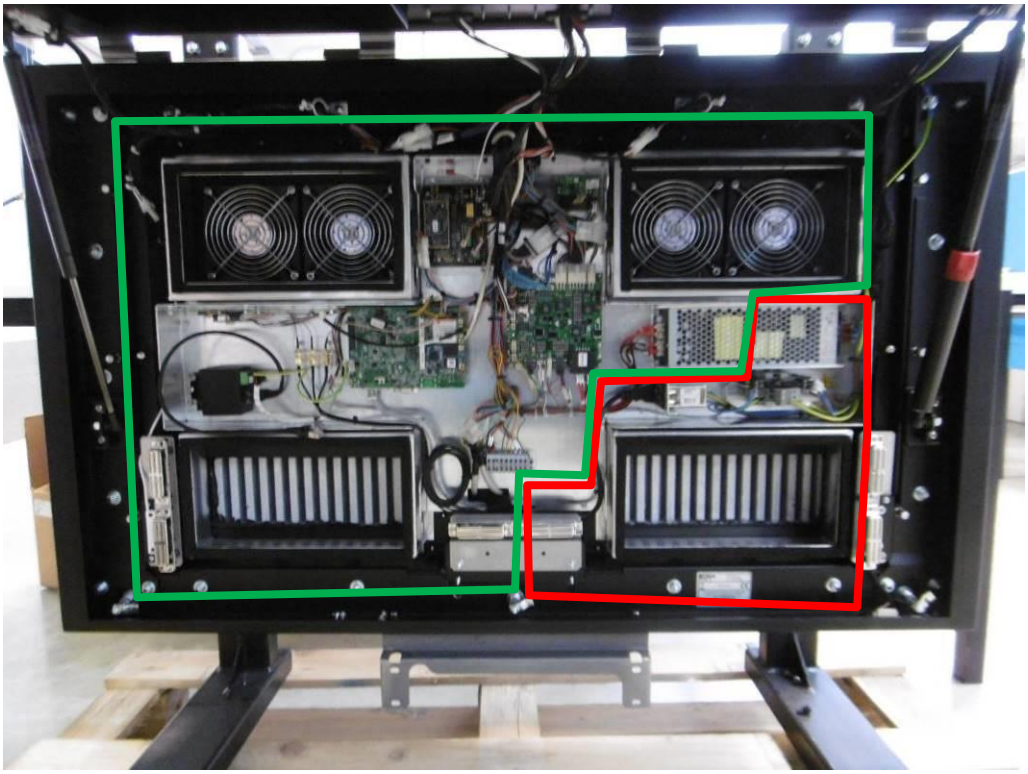
- “CPTOU” is fixed and means Compact Outdoor;
- “46” is fixed and indicates dimension of monitor (46’’);
- “15” is fixed and indicates the luminance of monitor (1500 cd/m^2);
- “a” is a variable and indicates orientation of monitor, it can be “LS” (landscape single side) or “PS” (portrait single side);
- “b” is a variable and indicates the capacity of SSD, it can be “P1” (32 GB) or “P2” (64 GB) or “P3” (1TB);
- “L3” is fixed and indicates type and thickness of glass (laminated, 3 mm thick);
- “ARI” is fixed and indicates glass treatment (anti-reflective 2 sides and IR filter);
- “c” is a variable and indicates the type of interface, it can be “E” (Ethernet) or “O1” (10/100 Mbit Ethernet-fiber converter) or “O2” (10/100/1000 Mbit Ethernet-fiber converter);
- “H” is fixed and indicates presence of heaters;
- “d” is a variable and indicates type of radio module present, it can be “4G1” (4G European radio module) or “4G2” (4G radio module for South America) or blank (no radio module);
- “e” is a variable and indicates the presence of Wi-Fi, it can be “W” (Wi-Fi module is present) or blank (no Wi-Fi module);
- “f” is a variable and indicates presence of Text-to-Speech board, it can be “TTS” (Text-to-Speech board is present) or blank (Text-to-Speech board is not present);
- “g” is a variable and indicates presence of PMR, it can be “PF” (French version of PMR) or “PS” (Spanish version of PMR) or blank (no PMR);
- “h” is a variable and indicates presence of antennas; it can be “A” (antennas present) or blank (antennas not present);
- “i” is a variable and indicates presence of door sensor and accelerometer, it can be “E” (with accelerometer and door sensor) or “D” (with door sensor only) or “C” (with accelerometer only) or blank (no accelerometer and door sensor);
- “ZO” is fixed and indicates type of sun cover present (Basic sun cover).

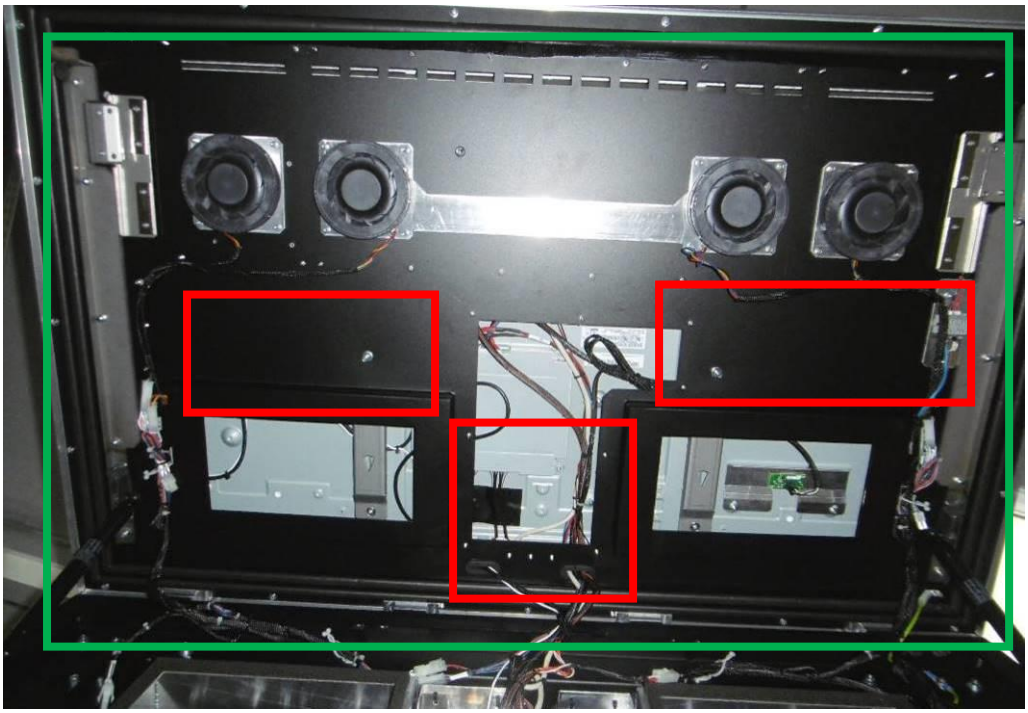
Since other models are under equipped version of model tested, no evaluation has been performed on variant models. Sound bar is a single model.
Additional application considerations – (Considerations used to test a component or sub-assembly) – Appliance-coupler of equipment shall not be accessible after installation of equipment. It can be accessible to skilled persons only. Mains connector, LAN connector, Optical fibre connector and covers on antenna have not been investigated for direct exposure to solar radiation, suitability of equipment shall be evaluated in final installation. For reasons listed above equipment has been considered not an end product, but as a component for building-in.

ENERGY SOURCE IDENTIFICATION AND CLASSIFICATION TABLE:	
(Note 1: Identify the following six (6) energy source forms based on the origin of the energy.) (Note 2: The identified classification e.g., ES2, TS1, should be with respect to its ability to cause pain or injury on the body or its ability to ignite a combustible material. Any energy source can be declared Class 3 as a worse case classification e.g. PS3, ES3.	
Electrically-caused injury (Clause 5): (Note: Identify type of source, list sub-assembly or circuit designation and corresponding energy source classification) Example: +5 V dc input ES1	
Source of electrical energy	**Corresponding classification (ES)**
Monitor	
Primary circuits	ES3
Pins of plug	ES3
Secondary circuits except output of LED driver of TFT panel	ES1
Output of LED driver of TFT panel	ES3
Sound bar	
All circuits except audio circuit toward loudspeaker	ES1
Audio circuit toward loudspeaker	ES1
Electrically-caused fire (Clause 6): (Note: List sub-assembly or circuit designation and corresponding energy source classification) Example: Battery pack (maximum 85 watts): PS2	
Source of power or PIS	**Corresponding classification (PS)**
Monitor	
All circuits except antennas	PS3
All internal circuits and parts	Resistive and Arcing PIS (worst case)
Antennas	PS1
Sound bar	
All internal circuits	PS3
All internal circuits and parts	Resistive PIS (worst case)
Injury caused by hazardous substances (Clause 7) (Note: Specify hazardous chemicals, whether produces ozone or other chemical construction not addressed as part of the component evaluation.) Example: Liquid in filled component Glycol	
Source of hazardous substances	**Corresponding chemical**
Monitor	
Battery inside PC board	**Lithium Manganese dioxide**
Mechanically-caused injury (Clause 8) (Note: List moving part(s), fan, special installations, etc. & corresponding MS classification based on Table 35.) Example: Wall mount unit MS2	
Source of kinetic/mechanical energy	**Corresponding classification (MS)**
Monitor	

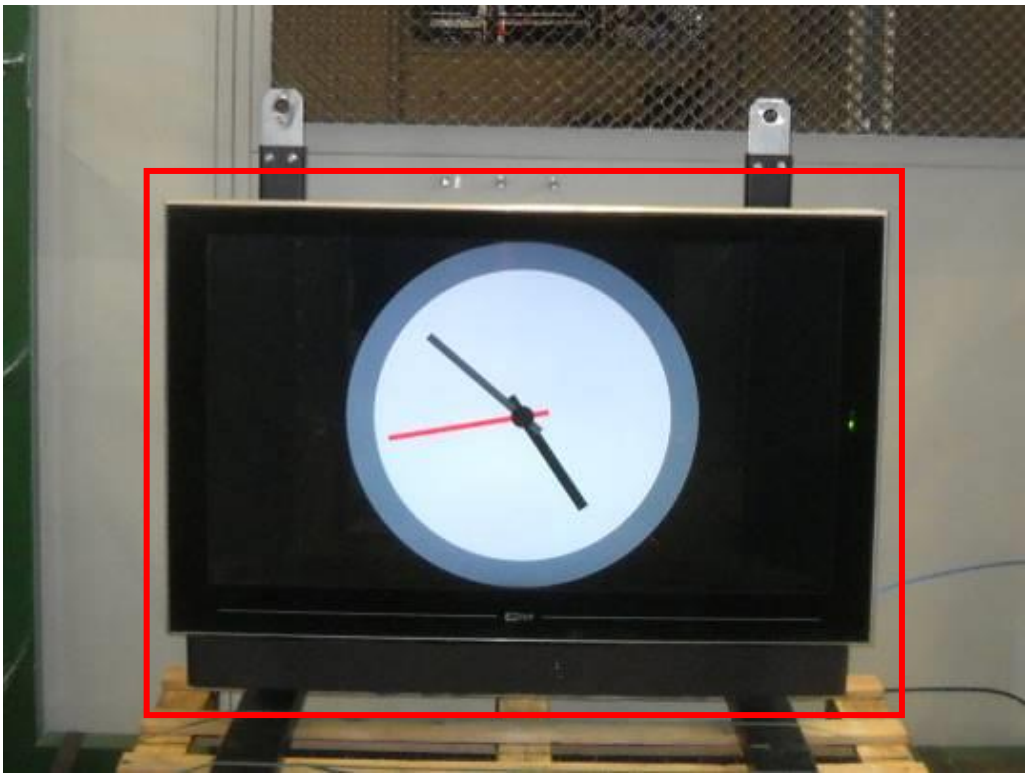
ENERGY SOURCE IDENTIFICATION AND CLASSIFICATION TABLE:	
Edges and corners	MS1
Cooling fan inside equipment	MS3
Equipment mass	MS3
Wall-mounted equipment	MS3
Sound bar	
Edges and corners	MS1
Equipment mass	MS1
Wall-mounted equipment	MS3
Thermal burn injury (Clause 9) (Note: Identify the surface or support, and corresponding energy source classification based on type of part, location, operating temperature and contact time in Table 38.) Example: Hand-held scanner – thermoplastic enclosure TS1	
Source of thermal energy	**Corresponding classification (TS)**
Monitor	
External enclosure	TS1
Sound bar	
External enclosure	TS1
Radiation (Clause 10) (Note: List the types of radiation present in the product and the corresponding energy source classification.) Example: DVD – Class 1 Laser Product RS1	
Type of radiation	**Corresponding classification (RS)**
Monitor	
TFT panel	RS1
Electro-magnetic fields	RS1
Optical fibre connector	RS1

ENERGY SOURCE DIAGRAM
Indicate which energy sources are included in the energy source diagram. Insert diagram below

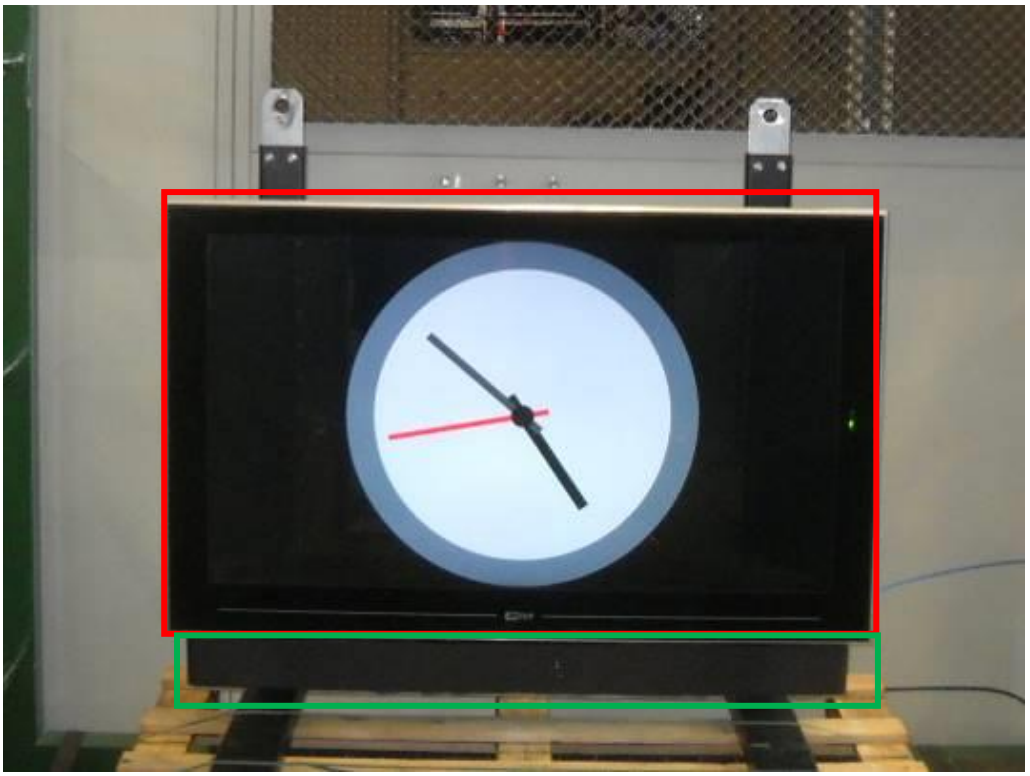




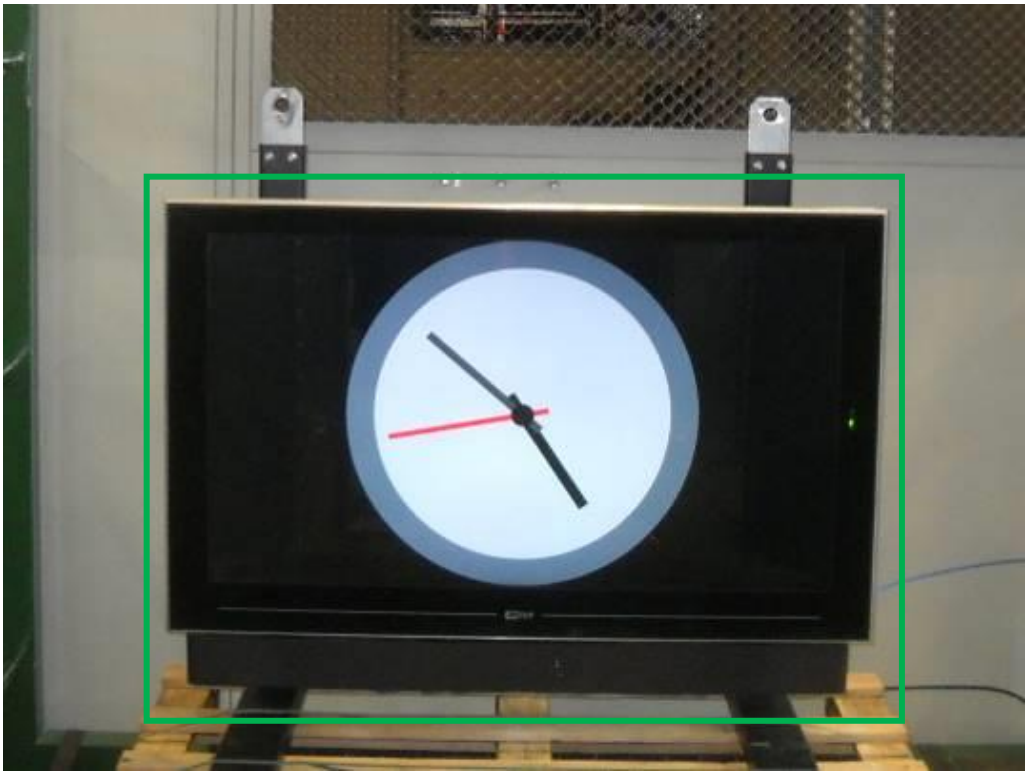
☒ ES ☐ PS ☐ MS ☐ TS ☐ RS



☐ ES ☒ PS ☒ MS (wall mounted equipment and moving parts) ☐ TS ☐ RS



☐ ES ☒ PS ☒ MS (equipment weight) ☐ TS ☐ RS



☐ ES ☐ PS ☒ MS (edges and corners) ☒ TS ☒ RS

OVERVIEW OF EMPLOYED SAFEGUARDS				
Clause	**Possible Hazard**			
5.1	Electrically-caused injury			
Body Part (e.g. Ordinary)	Energy Source (ES3: Primary Filter circuit)	Safeguards		
		Basic	Supplementary	Reinforced (Enclosure)
Monitor				
Ordinary	ES3: Primary circuits	Basic insulation towards accessible metallic enclosure	Reliable connection to protective earth of accessible metal parts	Enclosure, reinforced insulation between ES1 and ES3 circuits, use of component in compliance with Annex G / relevant standard
Ordinary	ES3: Pins of plug	Voltage below ES1 limits within 2 s	Voltage below ES2 limits within 2 s in single fault condition	-
Ordinary	ES1: Secondary circuits except output of LED driver of TFT panel	-	-	-
Ordinary	ES3: Output of LED driver of TFT panel	-	-	Enclosure, TFT panel separately approved
Sound bar				
Ordinary	ES1: All circuits except audio circuit toward loudspeaker	-	-	-
Ordinary	ES1: Audio circuit toward loudspeaker	-	-	-
6.1	Electrically-caused fire			
Material part (e.g. mouse enclosure)	Energy Source (PS2: 100 Watt circuit)	Safeguards		
		Basic	Supplementary	Reinforced
Monitor				
Enclosure	PS3: All circuits except antennas	Compliance with Cl. 6.3.1	Internal components made of rated V-0 material or in compliance with IEC component standard or having a mass less than 4 g or a volume less than 1750 mm^3, PWBs rated V-0, wirings in compliance with Cl. 6.5.1, fire	-

			enclosure. Components filling openings in the fire enclosure rated V-0.	
Combustible materials	Arcing and resistive PIS: All internal circuits and parts	Compliance with Cl. 6.3.1	Internal components made of rated V-0 material or in compliance with IEC component standard or having a mass less than 4 g or a volume less than 1750 mm^3, PWBs rated V-0, wirings in compliance with Cl. 6.5.1, fire enclosure made of metal and glass	-
Enclosure	PS1: Antennas	Compliance with Cl. 6.3.1	-	-
Sound bar				
Enclosure	PS3: All internal circuits	Compliance with Cl. 6.3.1	Internal components made of rated V-0 material or in compliance with IEC component standard or having a mass less than 4 g or a volume less than 1750 mm^3, PWBs rated V-0, wirings in compliance with Cl. 6.5.1, fire enclosure made of metal	-
Combustible materials	Resistive PIS: All internal circuits and parts	Compliance with Cl. 6.3.1	Internal components made of rated V-0 material or in compliance with IEC component standard or having a mass less than 4 g or a volume less than 1750 mm^3, PWBs rated V-0, wirings in compliance with Cl. 6.5.1, fire enclosure made of metal and glass	-

7.1	Injury caused by hazardous substances			
Body Part (e.g., skilled)	Energy Source (hazardous material)	Safeguards		
		Basic	Supplementary	Reinforced
Monitor				
Ordinary	Lithium battery	-	-	Compliance with Annex M
-	-	-	-	-
8.1	Mechanically-caused injury			
Body Part (e.g. Ordinary)	Energy Source (MS3:High Pressure Lamp)	Safeguards		
		Basic	Supplementary	Reinforced (Enclosure)
Monitor				
Ordinary	MS1: edges and corners	-	-	-
Ordinary	MS3: Cooling fans inside equipment	-	-	Enclosure
Ordinary	MS3: Equipment mass	-	-	No requirement for fixed equipment
Ordinary	MS3: Wall-mounted equipment	-	-	Compliance with Cl. 8.7
Sound bar				
Ordinary	MS1: edges and corners	-	-	-
Ordinary	MS1: Equipment mass	-	-	-
Ordinary	MS3: Wall-mounted equipment	-	-	Compliance with Cl. 8.7
9.1	Thermal Burn			
Body Part (e.g., Ordinary)	Energy Source (TS2)	Safeguards		
		Basic	Supplementary	Reinforced
Monitor				
Ordinary	TS1: External enclosure	-	-	-
Sound bar				
Ordinary	TS1: External enclosure	-	-	-
10.1	Radiation			
Body Part (e.g., Ordinary)	Energy Source (Output from audio port)	Safeguards		
		Basic	Supplementary	Reinforced
Monitor				
Ordinary	RS1: TFT panel	-	-	-
Ordinary	RS1: Electro-magnetic fields	-	-	-
Ordinary	RS1: Optical fibre connector	-	-	-
Supplementary Information:				
(1) See attached energy source diagram for additional details. (2) “N” – Normal Condition; “A” – Abnormal Condition; “S” Single Fault				

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Clause	Requirement + Test	Result - Remark	Verdict
4	**GENERAL REQUIREMENTS**		P
4.1.1	Acceptance of materials, components and subassemblies	Considered for TFT panel and its electronic boards.	P
4.1.2	Use of components	Components have been checked for correct application and use in accordance with their rating; Components that have been demonstrated to comply with a standard harmonized with the relevant IEC component standard have been subjected to the applicable tests of this standard, as part of the equipment, with the exception of those tests that are part of the relevant IEC component standard; Components that have not been demonstrated to comply with a relevant standard as above, have been subjected to the applicable tests of this standard, as part of the equipment, and to the applicable tests of the component standard, under the conditions occurring in the equipment; and Components used in circuits not in accordance with their specified ratings, have been tested under the conditions occurring in the equipment	P
4.1.3	Equipment design and construction		P
4.1.15	Markings and instructions.....:	(See Annex F)	P
4.4.4	Safeguard robustness		P
4.4.4.2	Steady force tests.....:	(See Annex T.4, T.5)	P
4.4.4.3	Drop tests .....:	Fixed equipment.	N/A
4.4.4.4	Impact tests .....:	(See Annex T.6)	P
4.4.4.5	Internal accessible safeguard enclosure and barrier tests.....:	No internal accessible safeguard.	N/A
4.4.4.6	Glass Impact tests .....:	(See Annex T.9)	P
4.4.4.7	Thermoplastic material tests.....:	Considered for plastic cover of antennas (See Annex T.8)	P
4.4.4.8	Air comprising a safeguard.....:		N/A
4.4.4.9	Accessibility and safeguard effectiveness		P
4.5	Explosion	No explosion observed under all conditions.	P

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Clause	Requirement + Test	Result - Remark	Verdict
4.6	Fixing of conductors		P
4.6.1	Fix conductors not to defeat a safeguard		P
4.6.2	10 N force test applied to .....:	All internal wirings, see appended table T.2 for details.	P
4.7	Equipment for direct insertion into mains socket - outlets	Not a direct plug-in equipment.	N/A
4.7.2	Mains plug part complies with the relevant standard.....:		N/A
4.7.3	Torque (Nm) .....:		N/A
4.8	Products containing coin/button cell batteries	Internal lithium battery is accessible to skilled persons only.	N/A
4.8.2	Instructional safeguard		N/A
4.8.3	Battery Compartment Construction		N/A
	Means to reduce the possibility of children removing the battery.....:		—
4.8.4	Battery Compartment Mechanical Tests .....:		N/A
4.8.5	Battery Accessibility		N/A
4.9	Likelihood of fire or shock due to entry of conductive object.....:	(See Annex P)	P

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Clause	Requirement + Test	Result - Remark	Verdict
5	**ELECTRICALLY-CAUSED INJURY**		P
5.2.1	Electrical energy source classifications ..... :	(See appended table 5.2)	P
5.2.2	ES1, ES2 and ES3 limits		P
5.2.2.2	Steady-state voltage and current..... :	See appended table 5.2)	P
5.2.2.3	Capacitance limits ..... :		N/A
5.2.2.4	Single pulse limits ..... :		N/A
5.2.2.5	Limits for repetitive pulses ..... :		N/A
5.2.2.6	Ringing signals ..... :		N/A
5.2.2.7	Audio signals ..... :	(See Clause E.1)	P
5.3	Protection against electrical energy sources		P
5.3.1	General Requirements for accessible parts to ordinary, instructed and skilled persons		P
5.3.2.1	Accessibility to electrical energy sources and safeguards		P
5.3.2.2	Contact requirements		P
	a) Test with test probe from Annex V ..... :	Only external enclosure, Ethernet connection and antenna connectors are accessible to ordinary persons.	P
	b) Electric strength test potential (V) ..... :		N/A
	c) Air gap (mm) ..... :		N/A
5.3.2.4	Terminals for connecting stripped wire	No accessible terminals for stripped wire.	N/A
5.4	Insulation materials and requirements		P
5.4.1.2	Properties of insulating material		P
5.4.1.3	Humidity conditioning ..... :	Components providing insulation have been already subjected to humidity conditioning during approval according to IEC component standard.	N/A
5.4.1.4	Maximum operating temperature for insulating materials ..... :	(See appended table 5.4.1.4)	P
5.4.1.5	Pollution degree ..... :	2 (inside equipment), 3 (outside equipment)	—
5.4.1.5.2	Test for pollution degree 1 environment and for an insulating compound		N/A
5.4.1.5.3	Thermal cycling		N/A
5.4.1.6	Insulation in transformers with varying dimensions	No transformer with varying dimensions.	N/A
5.4.1.7	Insulation in circuits generating starting pulses	No starting pulses.	N/A
5.4.1.8	Determination of working voltage		P

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Clause	Requirement + Test	Result - Remark	Verdict
5.4.1.9	Insulating surfaces		P
5.4.1.10	Thermoplastic parts on which conductive metallic parts are directly mounted	Separately approved components have been considered to comply with requirements.	P
5.4.1.10.2	Vicat softening temperature ..... :		N/A
5.4.1.10.3	Ball pressure ..... :		N/A
5.4.2	Clearances		P
5.4.2.2	Determining clearance using peak working voltage	(See appended table 5.4.2.2)	P
5.4.2.3	Determining clearance using required withstand voltage ..... :	(See appended table 5.4.2.3)	P
	a) a.c. mains transient voltage ..... :	2500 Vpeak	—
	b) d.c. mains transient voltage ..... :		—
	c) external circuit transient voltage ..... :		—
	d) transient voltage determined by measurement ... :		—
5.4.2.4	Determining the adequacy of a clearance using an electric strength test		N/A
5.4.2.5	Multiplication factors for clearances and test voltages ..... :	Maximum operating altitude is 2000 m.	N/A
5.4.3	Creepage distances ..... :	(See appended table 5.4.3)	P
5.4.3.1	General		P
5.4.3.3	Material Group ..... :	IIIb	—
5.4.4	Solid insulation	See Summary of Testing.	P
5.4.4.2	Minimum distance through insulation ..... :	(See appended table 5.4.4.2)	P
5.4.4.3	Insulation compound forming solid insulation		N/A
5.4.4.4	Solid insulation in semiconductor devices		N/A
5.4.4.5	Cemented joints		N/A
5.4.4.6	Thin sheet material		N/A
5.4.4.6.1	General requirements		N/A
5.4.4.6.2	Separable thin sheet material		N/A
	Number of layers (pcs) ..... :		N/A
5.4.4.6.3	Non-separable thin sheet material		N/A
5.4.4.6.4	Standard test procedure for non-separable thin sheet material ..... :		N/A
5.4.4.6.5	Mandrel test		N/A
5.4.4.7	Solid insulation in wound components	Only inside separately approved AC/DC switching power supply. It has been considered to comply with requirements.	P

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Clause	Requirement + Test	Result - Remark	Verdict
5.4.4.9	Solid insulation at frequencies >30 kHz .....:	Only inside separately approved AC/DC switching power supply. It has been considered to comply with requirements.	P
5.4.5	Antenna terminal insulation	No connection to external antenna	N/A
5.4.5.1	General		N/A
5.4.5.2	Voltage surge test		N/A
	Insulation resistance (MΩ).....:		—
5.4.6	Insulation of internal wire as part of supplementary safeguard .....:	Insulation on the wire has been considered as basic insulation or functional insulation only.	N/A
5.4.7	Tests for semiconductor components and for cemented joints		N/A
5.4.8	Humidity conditioning		N/A
	Relative humidity (%).....:		—
	Temperature (°C) .....:		—
	Duration (h) .....:		—
5.4.9	Electric strength test .....:	(See appended table 5.4.9)	P
5.4.9.1	Test procedure for a solid insulation type test		P
5.4.9.2	Test procedure for routine tests		N/A
5.4.10	Protection against transient voltages between external circuit	No connection to such external circuits.	N/A
5.4.10.1	Parts and circuits separated from external circuits		N/A
5.4.10.2	Test methods		N/A
5.4.10.2.1	General		N/A
5.4.10.2.2	Impulse test .....:		N/A
5.4.10.2.3	Steady-state test.....:		N/A
5.4.11	Insulation between external circuits and earthed circuitry .....:	No connection to such external circuits.	N/A
5.4.11.1	Exceptions to separation between external circuits and earth		N/A
5.4.11.2	Requirements		N/A
	Rated operating voltage U_{op} (V).....:		—
	Nominal voltage U_{peak} (V).....:		—
	Max increase due to variation U_{sp} .....:		—
	Max increase due to ageing ΔU_{sa} .....:		—
	$U_{op} = U_{peak} + \Delta U_{sp} + \Delta U_{sa}$ .....:		—
5.5	Components as safeguards		P
5.5.1	General		P

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Clause	Requirement + Test	Result - Remark	Verdict
5.5.2	Capacitors and RC units	Only inside separately approved AC/DC switching power supply and internal appliance inlet with integrated EMI filter, fuse-holder and functional switch.	P
5.5.2.1	General requirement		P
5.5.2.2	Safeguards against capacitor discharge after disconnection of a connector.....:	(See appended table 5.5.2.2)	P
5.5.3	Transformers	Only inside separately approved AC/DC switching power supply.	P
5.5.4	Optocouplers	Only inside separately approved AC/DC switching power supply.	P
5.5.5	Relays	(See Annex G.2)	P
5.5.6	Resistors	Only inside separately approved AC/DC switching power supply and internal appliance inlet with integrated EMI filter, fuse-holder and functional switch.	P
5.5.7	SPD's		N/A
5.5.7.1	Use of an SPD connected to reliable earthing		N/A
5.5.7.2	Use of an SPD between mains and protective earth		N/A
5.5.8	Insulation between the mains and external circuit consisting of a coaxial cable.....:		N/A
5.6	Protective conductor		P
5.6.2	Requirement for protective conductors	Supply cable is not provided with equipment.	P
5.6.2.1	General requirements		P
5.6.2.2	Colour of insulation	Green and yellow insulated wire are used for protective bonding conductors.	P
5.6.3	Requirement for protective earthing conductors		P
	Protective earthing conductor size (mm^2) .....:	1.5-2.5	—
5.6.4	Requirement for protective bonding conductors		P
5.6.4.1	Protective bonding conductors		P
	Protective bonding conductor size (mm^2). .....:	1.5-2.5	—
	Protective current rating (A) ..... :	16	—
5.6.4.3	Current limiting and overcurrent protective devices		P
5.6.5	Terminals for protective conductors		P
5.6.5.1	Requirement		P

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Clause	Requirement + Test	Result - Remark	Verdict
	Conductor size (mm^2), nominal thread diameter (mm). .....:	1.5-2.5 mm^2, M4 and M6 stud terminals used	P
5.6.5.2	Corrosion	(See Annex N)	P
5.6.6	Resistance of the protective system		P
5.6.6.1	Requirements		P
5.6.6.2	Test Method Resistance (Ω).....:	(See appended table 5.6.6.2)	P
5.6.7	Reliable earthing		N/A
5.7	Prospective touch voltage, touch current and protective conductor current		P
5.7.2	Measuring devices and networks		P
5.7.2.1	Measurement of touch current .....:	(See appended table 5.7.4)	P
5.7.2.2	Measurement of prospective touch voltage		P
5.7.3	Equipment set-up, supply connections and earth connections		P
	System of interconnected equipment (separate connections/single connection) .....:	Single connection.	—
	Multiple connections to mains (one connection at a time/simultaneous connections) .....:	One connection to a.c. mains.	—
5.7.4	Earthed conductive accessible parts.....:	(See appended Table 5.7.4)	P
5.7.5	Protective conductor current		N/A
	Supply Voltage (V).....:		—
	Measured current (mA).....:		—
	Instructional Safeguard.....:		N/A
5.7.6	Prospective touch voltage and touch current due to external circuits	No connection to such external circuits.	N/A
5.7.6.1	Touch current from coaxial cables		N/A
5.7.6.2	Prospective touch voltage and touch current from external circuits		N/A
5.7.7	Summation of touch currents from external circuits	No connection to such external circuits.	N/A
	a) Equipment with earthed external circuits Measured current (mA).....:		-
	b) Equipment whose external circuits are not referenced to earth. Measured current (mA).....:		-

6	**ELECTRICALLY- CAUSED FIRE**		P
6.2	Classification of power sources (PS) and potential ignition sources (PIS)		P
6.2.2	Power source circuit classifications		P
6.2.2.1	General		P
6.2.2.2	Power measurement for worst-case load fault ... :	(See appended table 6.2.2)	P

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Clause	Requirement + Test	Result - Remark	Verdict
6.2.2.3	Power measurement for worst-case power source fault ..... :	(See appended table 6.2.2)	P
6.2.2.4	PS1 ..... :	(See appended table 6.2.2)	P
6.2.2.5	PS2 ..... :		N/A
6.2.2.6	PS3 ..... :	(See appended table 6.2.2)	P
6.2.3	Classification of potential ignition sources		P
6.2.3.1	Arcing PIS ..... :	(See appended table 6.2.3.1)	P
6.2.3.2	Resistive PIS ..... :	(See appended table 6.2.3.2)	P
6.3	Safeguards against fire under normal operating and abnormal operating conditions		P
6.3.1 (a)	No ignition and attainable temperature value less than 90 % defined by ISO 871 or less than 300 °C for unknown materials ..... :	(See appended table 5.4.1.5, 6.3.2, 9.0, B.2.6)	P
6.3.1 (b)	Combustible materials outside fire enclosure	Considered for WiFi/LTE antenna and PMR antenna.	P
6.4	Safeguards against fire under single fault conditions		P
6.4.1	Safeguard Method		P
6.4.2	Reduction of the likelihood of ignition under single fault conditions in PS1 circuits	Control of fire spread used.	N/A
6.4.3	Reduction of the likelihood of ignition under single fault conditions in PS2 and PS3 circuits	Control of fire spread used.	N/A
6.4.3.1	General		N/A
6.4.3.2	Supplementary Safeguards		N/A
	Special conditions if conductors on printed boards are opened or peeled		N/A
6.4.3.3	Single Fault Conditions ..... :		N/A
	Special conditions for temperature limited by fuse		N/A
6.4.4	Control of fire spread in PS1 circuits	No supplementary safeguards required for PS1.	P
6.4.5	Control of fire spread in PS2 circuits	No PS2 circuits.	N/A
6.4.5.2	Supplementary safeguards ..... :		N/A
6.4.6	Control of fire spread in PS3 circuit	See Table of Overview of employed safeguards.	P
6.4.7	Separation of combustible materials from a PIS	No separation required, components and parts are made of rated V-0 material or in compliance with IEC component standard or having a mass of less than 4 g or a volume less than 1750 mm^3 and mounted on a rated V-0 PWB.	N/A
6.4.7.1	General ..... :		N/A
6.4.7.2	Separation by distance		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
6.4.7.3	Separation by a fire barrier		N/A
6.4.8	Fire enclosures and fire barriers		P
6.4.8.1	Fire enclosure and fire barrier material properties		P
6.4.8.2.1	Requirements for a fire barrier		N/A
6.4.8.2.2	Requirements for a fire enclosure	Fire enclosure is made of metal and glass, fire enclosure of Sound bar is made of metal. Components and parts filling openings in the fire enclosure are rated V-0.	P
6.4.8.3	Constructional requirements for a fire enclosure and a fire barrier	No openings on both monitor and Sound bar (both are rated IP65).	P
6.4.8.3.1	Fire enclosure and fire barrier openings		N/A
6.4.8.3.2	Fire barrier dimensions		N/A
6.4.8.3.3	Top Openings in Fire Enclosure: dimensions (mm) .....:		N/A
	Needle Flame test		N/A
6.4.8.3.4	Bottom Openings in Fire Enclosure, condition met a), b) and/or c) dimensions (mm) .....:		N/A
	Flammability tests for the bottom of a fire enclosure .....:		N/A
6.4.8.3.5	Integrity of the fire enclosure, condition met: a), b) or c) .....:		N/A
6.4.8.4	Separation of PIS from fire enclosure and fire barrier distance (mm) or flammability rating.....:	Fire enclosure is made of metal and glass.	N/A
6.5	Internal and external wiring		P
6.5.1	Requirements		**P**
6.5.2	Cross-sectional area (mm^2) .....:	See appended table 4.1.2.	—
6.5.3	Requirements for interconnection to building wiring .....:		N/A
6.6	Safeguards against fire due to connection to additional equipment	See Summary of testing concerning supply of Sound bar.	N/A
	External port limited to PS2 or complies with Clause Q.1		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
7	**INJURY CAUSED BY HAZARDOUS SUBSTANCES**		P
7.2	Reduction of exposure to hazardous substances		P
7.3	Ozone exposure		N/A
7.4	Use of personal safeguards (PPE)		N/A
	Personal safeguards and instructions ..... :		—
7.5	Use of instructional safeguards and instructions		N/A
	Instructional safeguard (ISO 7010) .....:		—
7.6	Batteries.....:	(See Annex M)	P
8	**MECHANICALLY-CAUSED INJURY**		P
8.1	General		P
8.2	Mechanical energy source classifications		P
8.3	Safeguards against mechanical energy sources		P
8.4	Safeguards against parts with sharp edges and corners	MS1 only.	P
8.4.1	Safeguards		N/A
8.5	Safeguards against moving parts	Cooling fans inside equipment have been considered as a MS3 energy sources. Enclosure of equipment provides protection against access to moving parts also after tests of Annex T.	P
8.5.1	MS2 or MS3 part required to be accessible for the function of the equipment		N/A
8.5.2	Instructional Safeguard..... :		—
8.5.4	Special categories of equipment comprising moving parts		N/A
8.5.4.1	Large data storage equipment		N/A
8.5.4.2	Equipment having electromechanical device for destruction of media		N/A
8.5.4.2.1	Safeguards and Safety Interlocks .....:		N/A
8.5.4.2.2	Instructional safeguards against moving parts		N/A
	Instructional Safeguard.....:		—
8.5.4.2.3	Disconnection from the supply		N/A
8.5.4.2.4	Probe type and force (N) .....:		N/A
8.5.5	High Pressure Lamps	No lamps.	N/A
8.5.5.1	Energy Source Classification		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
8.5.5.2	High Pressure Lamp Explosion Test.....:		N/A
8.6	Stability	Fixed equipment.	N/A
8.6.1	Product classification		N/A
	Instructional Safeguard.....:		—
8.6.2	Static stability		N/A
8.6.2.2	Static stability test		N/A
	Applied Force.....:		—
8.6.2.3	Downward Force Test		N/A
8.6.3	Relocation stability test		N/A
	Unit configuration during 10° tilt.....:		—
8.6.4	Glass slide test		N/A
8.6.5	Horizontal force test (Applied Force).....:		N/A
	Position of feet or movable parts.....:		—
8.7	Equipment mounted to wall or ceiling		P
8.7.1	Mounting Means (Length of screws (mm) and mounting surface) .....:	Monitor: 20 mm M6 screws Sound bar: 15 mm M6 screws Bracket of sound bar: 15 mm M6 screws	P
8.7.2	Direction and applied force.....:	Monitor: downwards 880 N Sound bar: downwards 100 N 2.5 Nm applied to all screws.	P
8.8	Handles strength	No handles	N/A
8.8.1	Classification		N/A
8.8.2	Applied Force .....:		N/A
8.9	Wheels or casters attachment requirements	No wheels or casters.	N/A
8.9.1	Classification		N/A
8.9.2	Applied force .....:		—
8.10	Carts, stands and similar carriers	No carts or stands.	N/A
8.10.1	General		N/A
8.10.2	Marking and instructions		N/A
	Instructional Safeguard.....:		—
8.10.3	Cart, stand or carrier loading test and compliance		N/A
	Applied force .....:		—
8.10.4	Cart, stand or carrier impact test		N/A
8.10.5	Mechanical stability		N/A
	Applied horizontal force (N).....:		—

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Clause	Requirement + Test	Result - Remark	Verdict
8.10.6	Thermoplastic temperature stability (°C).....:		N/A
8.11	Mounting means for rack mounted equipment	No rack mounted equipment.	N/A
8.11.1	General		N/A
8.11.2	Product Classification		N/A
8.11.3	Mechanical strength test, variable *N* .....:		N/A
8.11.4	Mechanical strength test 250N, including end stops		N/A
8.12	Telescoping or rod antennas.....	No antennas.	N/A
	Button/Ball diameter (mm).....:		—
9	**THERMAL BURN INJURY**		P
9.2	Thermal energy source classifications		P
9.3	Safeguard against thermal energy sources		P
9.4	Requirements for safeguards		P
9.4.1	Equipment safeguard	TS1 only.	N/A
9.4.2	Instructional safeguard .....:		N/A
10	**RADIATION**		P
10.2	Radiation energy source classification		P
10.2.1	General classification		P
10.3	Protection against laser radiation	Considered for Fibre-Ethernet converters. They include separately approved Class I transceivers.	P
	Laser radiation that exists in the equipment:		—
	Normal, abnormal, single-fault..... :		N/A
	Instructional safeguard ..... :		—
	Tool..... :		—
10.4	Protection against visible, infrared, and UV radiation	TFT panel has been considered as exempt risk group since its luminance is less than 10^4 cd/m^2.	P
10.4.1	General		N/A
10.4.1.a)	RS3 for Ordinary and instructed persons.....:		N/A
10.4.1.b)	RS3 accessible to a skilled person.....:		N/A
	Personal safeguard (PPE) instructional safeguard.....:		—
10.4.1.c)	Equipment visible, IR, UV does not exceed RS1 . :		N/A
10.4.1.d)	Normal, abnormal, single-fault conditions .....:		N/A
10.4.1.e)	Enclosure material employed as safeguard is		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	opaque.....:		
10.4.1.f)	UV attenuation.....:		N/A
10.4.1.g)	Materials resistant to degradation UV .....:		N/A
10.4.1.h)	Enclosure containment of optical radiation.....:		N/A
10.4.1.i)	Exempt Group under normal operating conditions.....:		N/A
10.4.2	Instructional safeguard .....:		N/A
10.5	Protection against x-radiation	No X-radiation.	N/A
10.5.1	X- radiation energy source that exists equipment:		N/A
	Normal, abnormal, single fault conditions		N/A
	Equipment safeguards.....:		N/A
	Instructional safeguard for skilled person..... :		N/A
10.5.3	Most unfavourable supply voltage to give maximum radiation .....:		—
	Abnormal and single-fault condition ..... :		N/A
	Maximum radiation (pA/kg)..... :		N/A
10.6	Protection against acoustic energy sources	Not a personal music player.	N/A
10.6.1	General		N/A
10.6.2	Classification		N/A
	Acoustic output, dB(A)..... :		N/A
	Output voltage, unweighted r.m.s..... :		N/A
10.6.4	Protection of persons		N/A
	Instructional safeguards ..... :		N/A
	Equipment safeguard prevent ordinary person to RS2..... :		—
	Means to actively inform user of increase sound pressure..... :		—
	Equipment safeguard prevent ordinary person to RS2..... :		—
10.6.5	Requirements for listening devices (headphones, earphones, etc.)		N/A
10.6.5.1	Corded passive listening devices with analog input		N/A
	Input voltage with 94 dB(A) L_{Aeq} acoustic pressure output..... :		—
10.6.5.2	Corded listening devices with digital input		N/A
	Maximum dB(A)..... :		—
10.6.5.3	Cordless listening device		N/A
	Maximum dB(A)..... :		—

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Clause	Requirement + Test	Result - Remark	Verdict
B	**NORMAL OPERATING CONDITION TESTS, ABNORMAL OPERATING CONDITION TESTS AND SINGLE FAULT CONDITION TESTS**		P
B.2	Normal Operating Conditions		P
B.2.1	General requirements..... :	(See Test Item Particulars and appended test tables)	P
	Audio Amplifiers and equipment with audio amplifiers ..... :	(See Annex E)	P
B.2.3	Supply voltage and tolerances	±10% for monitor None for Sound bar.	P
B.2.5	Input test..... :	(See appended table B.2.5)	P
B.3	Simulated abnormal operating conditions		P
B.3.1	General requirements..... :	(See appended table B.3)	P
B.3.2	Covering of ventilation openings	Considered for external openings in front of cooling fans, located outside equipment.	N/A
B.3.3	D.C. mains polarity test	Sound bar is supplied by means of a non-detachable cable, conductors are connected to internal terminals.	N/A
B.3.4	Setting of voltage selector ..... :	No voltage selectors.	N/A
B.3.5	Maximum load at output terminals ..... :	Considered for Ethernet connection.	P
B.3.6	Reverse battery polarity	Lithium battery on internal PC board is provided with a polarized connector.	N/A
B.3.7	Abnormal operating conditions as specified in Clause E.2.	Considered for audio amplifier board inside Sound bar.	P
B.3.8	Safeguards functional during and after abnormal operating conditions		P
B.4	Simulated single fault conditions		P
B.4.2	Temperature controlling device open or short-circuited ..... :	Considered for heating element on front panel.	P
B.4.3	Motor tests		P
B.4.3.1	Motor blocked or rotor locked increasing the internal ambient temperature ..... :	Considered for all cooling fans, they have been tested one at a time.	P
B.4.4	Short circuit of functional insulation		P
B.4.4.1	Short circuit of clearances for functional insulation	Considered for insulation between Line and Neutral after internal appliance inlet with integrated EMI filter, fuse-holder and functional switch	P

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Clause	Requirement + Test	Result - Remark	Verdict
B.4.4.2	Short circuit of creepage distances for functional insulation		P
B.4.4.3	Short circuit of functional insulation on coated printed boards		N/A
B.4.5	Short circuit and interruption of electrodes in tubes and semiconductors		P
B.4.6	Short circuit or disconnect of passive components		P
B.4.7	Continuous operation of components		N/A
B.4.8	Class 1 and Class 2 energy sources within limits during and after single fault conditions		P
B.4.9	Battery charging under single fault conditions ... :	(See Annex M)	P
C	**UV RADIATION**		N/A
C.1	Protection of materials in equipment from UV radiation	No UV radiation.	N/A
C.1.2	Requirements		N/A
C.1.3	Test method		N/A
C.2	UV light conditioning test		N/A
C.2.1	Test apparatus		N/A
C.2.2	Mounting of test samples		N/A
C.2.3	Carbon-arc light-exposure apparatus		N/A
C.2.4	Xenon-arc light exposure apparatus		N/A
D	**TEST GENERATORS**		N/A
D.1	Impulse test generators		N/A
D.2	Antenna interface test generator		N/A
D.3	Electronic pulse generator		N/A
E	**TEST CONDITIONS FOR EQUIPMENT CONTAINING AUDIO AMPLIFIERS**		N/A
E.1	Audio amplifier normal operating conditions		P
	Audio signal voltage (V) .....:	3 Vrms	—
	Rated load impedance (Ω) .....:	4 or 8 Ω (impedance of loudspeaker)	—
E.2	Audio amplifier abnormal operating conditions	(See appended table B.3)	P
F	**EQUIPMENT MARKINGS, INSTRUCTIONS, AND INSTRUCTIONAL SAFEGUARDS**		P
F.1	General requirements		P
	Instructions – Language .....:	Italian checked.	—
F.2	Letter symbols and graphical symbols		P
F.2.1	Letter symbols according to IEC60027-1		P
F.2.2	Graphic symbols IEC, ISO or manufacturer specific		P

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Clause	Requirement + Test	Result - Remark	Verdict
F.3	Equipment markings		P
F.3.1	Equipment marking locations	On rear side of equipment.	P
F.3.2	Equipment identification markings		P
F.3.2.1	Manufacturer identification .....:	Trademark and manufacturer's name marked on main label.	—
F.3.2.2	Model identification .....:	Monitor: CPTOU4615 **a b**L3ARI**c**H-**defghi**Z0 (CPTOU4615 LS P3L3ARIO2H-4G1WTTSPFAEZ0 tested) Sound bar: Slim Soundbar 46'' MC ALC	—
F.3.3	Equipment rating markings		P
F.3.3.1	Equipment with direct connection to mains	Considered for monitor.	P
F.3.3.2	Equipment without direct connection to mains	Considered for Sound bar.	N/A
F.3.3.3	Nature of supply voltage.....:	Monitor: "ac" marked Sound bar: IEC 60417-5031 symbol used.	—
F.3.3.4	Rated voltage .....:	Monitor: 220-240 V Sound bar: 8-30 Vdc	—
F.3.3.5	Rated frequency .....:	Monitor: 50/60 Hz Sound bar is a d.c. powered	—
F.3.3.6	Rated current or rated power .....:	Monitor:2.7 A Sound bar: 3 A	—
F.3.3.7	Equipment with multiple supply connections	Only one supply connection.	N/A
F.3.4	Voltage setting device	No voltage setting device.	N/A
F.3.5	Terminals and operating devices		P
F.3.5.1	Mains appliance outlet and socket-outlet markings..... :	No mains appliance outlet or socket-outlet markings	N/A
F.3.5.2	Switch position identification marking ..... :	No switches.	N/A
F.3.5.3	Replacement fuse identification and rating markings..... :	Considered for fuses inside Internal appliance inlet with integrated EMI filter, fuse-holder and functional switch, for fuses in series with heating element and for fuse F1, F4 on electronic board 1609. Fuse inside separately approved AC/DC switching power supply is adequately marked. Fuses F1 and FS1 inside Fibre-Ethernet converters are soldered in place and not intended to be replaced.	P
F.3.5.4	Replacement battery identification marking ..... :	Lithium battery on PC board is replaceable by skilled persons only.	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
F.3.5.5	Terminal marking location		P
F.3.6	Equipment markings related to equipment classification		P
F.3.6.1	Class I Equipment		P
F.3.6.1.1	Protective earthing conductor terminal	Considered for terminal fixing connector coming from mains connector, symbol IEC 60417-5019 used.	P
F.3.6.1.2	Neutral conductor terminal	No neutral terminal.	N/A
F.3.6.1.3	Protective bonding conductor terminals	Symbol IEC 60417-5017 used.	P
F.3.6.2	Class II equipment (IEC60417-5172)	Class I equipment.	N/A
F.3.6.2.1	Class II equipment with or without functional earth		N/A
F.3.6.2.2	Class II equipment with functional earth terminal marking		N/A
F.3.7	Equipment IP rating marking .....:	IP65	—
F.3.8	External power supply output marking		N/A
F.3.9	Durability, legibility and permanence of marking		P
F.3.10	Test for permanence of markings	Marking withstood durability test.	P
F.4	Instructions		P
	a) Equipment for use in locations where children not likely to be present - marking		N/A
	b) Instructions given for installation or initial use		P
	c) Equipment intended to be fastened in place		P
	d) Equipment intended for use only in restricted access area		N/A
	e) Audio equipment terminals classified as ES3 and other equipment with terminals marked in accordance F.3.6.1		N/A
	f) Protective earthing employed as safeguard		P
	g) Protective earthing conductor current exceeding ES 2 limits		N/A
	h) Symbols used on equipment		P
	i) Permanently connected equipment not provided with all-pole mains switch		N/A
	j) Replaceable components or modules providing safeguard function		P
F.5	Instructional safeguards		P
	Where “instructional safeguard” is referenced in the test report it specifies the required elements, location of marking and/or instruction		P

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Clause	Requirement + Test	Result - Remark	Verdict
G	**COMPONENTS**		P
G.1	**Switches**		P
G.1.1	General requirements	Switch only as a part of separately approved internal appliance inlet with integrated EMI filter, fuse-holder and functional switch.	P
G.1.2	Ratings, endurance, spacing, maximum load		N/A
G.2	**Relays**		P
G.2.1	General requirements	Considered for relay controlling heating elements.	P
G.2.2	Overload test	No overload test required, since relay has been tested for a 8 A current during its approval according to IEC 61810-1.	P
G.2.3	Relay controlling connectors supply power		N/A
G.2.4	Mains relay, modified as stated in G.2		P
G.3	**Protection Devices**		P
G.3.1	Thermal cut-offs		P
G.3.1.1a) &b)	Thermal cut-outs separately approved according to IEC 60730 with conditions indicated in a) & b)	Considered for Safety thermostat inside heating elements on front panel.	P
G.3.1.1c)	Thermal cut-outs tested as part of the equipment as indicated in c)		N/A
G.3.1.2	Thermal cut-off connections maintained and secure		P
G.3.2	Thermal links		N/A
G.3.2.1a)	Thermal links separately tested with IEC 60691	No thermal links.	N/A
G.3.2.1b)	Thermal links tested as part of the equipment		N/A
	Aging hours (H) ..... :		—
	Single Fault Condition ..... :		—
	Test Voltage (V) and Insulation Resistance (Ω). :		—
G.3.3	PTC Thermistors	PTC on PC board and on electronic board of Sound bar are separately approved according to IEC 60730-1	P
G.3.4	Overcurrent protection devices	Considered for fuses inside internal appliance inlet with integrated EMI filter, fuse-holder and functional switch, fuse for heating elements, separately approved according to IEC 60127-2, and for fuse F4 on electronic board 1609, separately approved according to IEC 60127-3.	P

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Clause	Requirement + Test	Result - Remark	Verdict
G.3.5	Safeguards components not mentioned in G.3.1 to G.3.5		P
G.3.5.1	Non-resettable devices suitably rated and marking provided	Considered for fuse F1 on electronic board 1609 (fuse reference present close to component and information provided inside user's manual) and for fuses FS1 and F1 inside Fibre-Ethernet converters (soldered in place and not intended to be replaced).	P
G.3.5.2	Single faults conditions.....:	(See appended Table B.4)	P
G.4	**Connectors**		N/A
G.4.1	Spacings	See Summary of testing.	N/A
G.4.2	Mains connector configuration .....:		N/A
G.4.3	Plug is shaped that insertion into mains socket-outlets or appliance coupler is unlikely		N/A
G.5	**Wound Components**		P
G.5.1	Wire insulation in wound components.....	Only inside separately approved AC/DC switching power supply.	P
G.5.1.2 a)	Two wires in contact inside wound component, angle between 45° and 90°		N/A
G.5.1.2 b)	Construction subject to routine testing		N/A
G.5.2	Endurance test on wound components		N/A
G.5.2.1	General test requirements		N/A
G.5.2.2	Heat run test		N/A
	Time (s) .....:		—
	Temperature (°C) .....:		—
G.5.2.3	Wound Components supplied by mains		N/A
G.5.3	**Transformers**		N/A
G.5.3.1	Requirements applied (IEC61204-7, IEC61558-1/-2, and/or IEC62368-1).....:	Only inside separately approved AC/DC switching power supply.	P
	Position.....:		—
	Method of protection .....:		—
G.5.3.2	Insulation		N/A
	Protection from displacement of windings.....:		—
G.5.3.3	Overload test..... :		N/A
G.5.3.3.1	Test conditions		N/A
G.5.3.3.2	Winding Temperatures testing in the unit		N/A
G.5.3.3.3	Winding Temperatures - Alternative test method		N/A
G.5.4	**Motors**		P

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Clause	Requirement + Test	Result - Remark	Verdict
G.5.4.1	General requirements	Considered for internal cooling fans.	P
	Position .....:	Secondary circuits (ES1)	—
G.5.4.2	Test conditions		N/A
G.5.4.3	Running overload test		N/A
G.5.4.4	Locked-rotor overload test		N/A
	Test duration (days) .....:		—
G.5.4.5	Running overload test for d.c. motors in secondary circuits		N/A
G.5.4.5.2	Tested in the unit		N/A
	Electric strength test (V).....:		—
G.5.4.5.3	Tested on the Bench - Alternative test method; test time (h) .....:		N/A
	Electric strength test (V).....:		—
G.5.4.6	Locked-rotor overload test for d.c. motors in secondary circuits		P
G.5.4.6.2	Tested in the unit		P
	Maximum Temperature .....:	See Table B.4	P
	Electric strength test (V) .....:		N/A
G.5.4.6.3	Tested on the bench - Alternative test method; test time (h) .....:		N/A
	Electric strength test (V).....:		N/A
G.5.4.7	Motors with capacitors		N/A
G.5.4.8	Three-phase motors		N/A
G.5.4.9	Series motors		N/A
	Operating voltage .....:		—
G.6	**Wire Insulation**		P
G.6.1	General	Insulation on the wire considered as basic insulation (for mains conductors) or functional insulation.	P
G.6.2	Solvent-based enamel wiring insulation		N/A
G.7	**Mains supply cords**		N/A
G.7.1	General requirements	Equipment is intended to be connected to a.c. mains supply by means of a detachable power supply cord. Power supply cord has not been considered in this test report.	N/A
	Type.....:		—

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Clause	Requirement + Test	Result - Remark	Verdict
	Rated current (A).....:		—
	Cross-sectional area (mm^2), (AWG)..... :		—
G.7.2	Compliance and test method		N/A
G.7.3	Cord anchorages and strain relief for non-detachable power supply cords	Considered for audio cable connecting monitor and Sound bar	P
G.7.3.2	Cord strain relief		P
G.7.3.2.1	Requirements		P
	Strain relief test force (N) .....:	100 N for cord anchorage on Sound bar and on monitor.	—
G.7.3.2.2	Strain relief mechanism failure		P
G.7.3.2.3	Cord sheath or jacket position, distance (mm)....:	> 20 mm	—
G.7.3.2.4	Strain relief comprised of polymeric material		P
G.7.4	Cord Entry ..... :		P
G.7.5	Non-detachable cord bend protection		N/A
G.7.5.1	Requirements		N/A
G.7.5.2	Mass (g) ..... :		—
	Diameter (m) .....:		—
	Temperature (°C) .....:		—
G.7.6	Supply wiring space		P
G.7.6.2	Stranded wire	Only ES1 circuits, no hazard in case of short-circuit among wires.	N/A
G.7.6.2.1	Test with 8 mm strand		N/A
G.8	**Varistors**		P
G.8.1	General requirements	Only inside separately approved AC/DC switching power supply.	P
G.8.2	Safeguard against shock		N/A
G.8.3	Safeguard against fire		N/A
G.8.3.2	Varistor overload test .....:		N/A
G.8.3.3	Temporary overvoltage .....:		N/A
G.9	**Integrated Circuit (IC) Current Limiters**		N/A
G.9.1 a)	Manufacturer defines limit at max. 5A.	No such components.	N/A
G.9.1 b)	Limiters do not have manual operator or reset		N/A
G.9.1 c)	Supply source does not exceed 250 VA .....:		—
G.9.1 d)	IC limiter output current (max. 5A) .....:		—
G.9.1 e)	Manufacturers' defined drift .....:		—
G.9.2	Test Program 1		N/A
G.9.3	Test Program 2		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
G.9.4	Test Program 3		N/A
G.10	**Resistors**		P
G.10.1	General requirements	Only inside separately approved AC/DC switching power supply and inside internal appliance inlet with integrated EMI filter, fuse-holder and functional switch	P
G.10.2	Resistor test		N/A
G.10.3	Test for resistors serving as safeguards between the mains and an external circuit consisting of a coaxial cable		N/A
G.10.3.1	General requirements		N/A
G.10.3.2	Voltage surge test		N/A
G.10.3.3	Impulse test		N/A
G.11	**Capacitor and RC units**		P
G.11.1	General requirements	Only inside separately approved AC/DC switching power supply and inside internal appliance inlet with integrated EMI filter, fuse-holder and functional switch	P
G.11.2	Conditioning of capacitors and RC units		N/A
G.11.3	Rules for selecting capacitors		N/A
G.12	**Optocouplers**		P
	Optocouplers comply with IEC 60747-5-5:2007 Spacing or Electric Strength Test (specify option and test results).....:	Inside separately approved AC/DC switching power supply.	P
	Type test voltage Vini .....:		—
	Routine test voltage, Vini,b .....:		—
G.13	**Printed boards**		P
G.13.1	General requirements		P
G.13.2	Uncoated printed boards		P
G.13.3	Coated printed boards		N/A
G.13.4	Insulation between conductors on the same inner surface		N/A
	Compliance with cemented joint requirements (Specify construction).....:		—
G.13.5	Insulation between conductors on different surfaces	PWB not used as insulation barrier.	N/A
	Distance through insulation.....:		N/A
	Number of insulation layers (pcs) .....:		—
G.13.6	Tests on coated printed boards		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
G.13.6.1	Sample preparation and preliminary inspection		N/A
G.13.6.2a)	Thermal conditioning		N/A
G.13.6.2b)	Electric strength test		N/A
G.13.6.2c)	Abrasion resistance test		N/A
G.14	**Coating on components terminals**		N/A
G.14.1	Requirements ..... :	(See G.13)	N/A
G.15	**Liquid filled components**		N/A
G.15.1	General requirements		N/A
G.15.2	Requirements		N/A
G.15.3	Compliance and test methods		N/A
G.15.3.1	Hydrostatic pressure test		N/A
G.15.3.2	Creep resistance test		N/A
G.15.3.3	Tubing and fittings compatibility test		N/A
G.15.3.4	Vibration test		N/A
G.15.3.5	Thermal cycling test		N/A
G.15.3.6	Force test		N/A
G.15.4	Compliance		N/A
G.16	**IC including capacitor discharge function (ICX)**		N/A
a)	Humidity treatment in accordance with sc 5.4.8 – 120 hours		N/A
b)	Impulse test using circuit 2 with Uc = to transient voltage .....:		N/A
C1)	Application of ac voltage at 110% of rated voltage for 2.5 minutes		N/A
C2)	Test voltage .....:		—
D1)	10,000 cycles on and off using capacitor with smallest capacitance resistor with largest resistance specified by manufacturer		N/A
D2)	Capacitance .....:		—
D3)	Resistance .....:		—
H	**CRITERIA FOR TELEPHONE RINGING SIGNALS**		N/A
H.1	General		N/A
H.2	Method A		N/A
H.3	Method B		N/A
H.3.1	Ringing signal		N/A
H.3.1.1	Frequency (Hz) .....:		—
H.3.1.2	Voltage (V) .....:		—

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Clause	Requirement + Test	Result - Remark	Verdict
H.3.1.3	Cadence; time (s) and voltage (V) .....:		—
H.3.1.4	Single fault current (mA):.....:		—
H.3.2	Tripping device and monitoring voltage .....:		N/A
H.3.2.1	Conditions for use of a tripping device or a monitoring voltage complied with		N/A
H.3.2.2	Tripping device		N/A
H.3.2.3	Monitoring voltage (V) .....:		—
J	**INSULATED WINDING WIRES FOR USE WITHOUT INTERLEAVED INSULATION**		P
	General requirements	Only inside separately approved AC/DC switching power supply.	P
K	**SAFETY INTERLOCKS**		N/A
K.1	General requirements	No interlocks.	N/A
K.2	Components of safety interlock safeguard mechanism		N/A
K.3	Inadvertent change of operating mode		N/A
K.4	Interlock safeguard override		N/A
K.5	Fail-safe		N/A
	Compliance .....:		N/A
K.6	Mechanically operated safety interlocks		N/A
K.6.1	Endurance requirement		N/A
K.6.2	Compliance and Test method .....:		N/A
K.7	Interlock circuit isolation		N/A
K.7.1	Separation distance for contact gaps & interlock circuit elements (type and circuit location) .....:		N/A
K.7.2	Overload test, Current (A) .....:		N/A
K.7.3	Endurance test		N/A
K.7.4	Electric strength test .....:		N/A
L	**DISCONNECT DEVICES**		P
L.1	General requirements	Plug of power supply cord has been considered as disconnect device of equipment. Sound bar is supplied by monitor, no disconnection device is required.	P
L.2	Permanently connected equipment	Pluggable equipment type A.	N/A
L.3	Parts that remain energized	No part remains energized after disconnection of mains plug.	P
L.4	Single phase equipment	Mains plug disconnects both supply conductors at the same time.	P
L.5	Three-phase equipment	Single-phase equipment.	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
L.6	Switches as disconnect devices	No switches.	N/A
L.7	Plugs as disconnect devices	Warning statement is present inside instructions.	P
L.8	Multiple power sources	Only one power source.	N/A
M	**EQUIPMENT CONTAINING BATTERIES AND THEIR PROTECTION CIRCUITS**		P
M.1	General requirements	Considered for lithium battery of PC board.	P
M.2	Safety of batteries and their cells		P
M.2.1	Requirements		P
M.2.2	Compliance and test method (identify method) .. :	IEC 60086-4.	P
M.3	Protection circuits		P
M.3.1	Requirements		P
M.3.2	Tests		P
	- Overcharging of a rechargeable battery	No rechargeable batteries.	N/A
	- Unintentional charging of a non-rechargeable battery		P
	- Reverse charging of a rechargeable battery	No rechargeable batteries.	N/A
	- Excessive discharging rate for any battery		P
M.3.3	Compliance .....:	(See appended Tables and Annex M.3 and M.4)	P
M.4	Additional safeguards for equipment containing secondary lithium battery	Primary lithium battery only.	N/A
M.4.1	General		N/A
M.4.2	Charging safeguards		N/A
M.4.2.1	Charging operating limits		N/A
M.4.2.2a)	Charging voltage, current and temperature .....:		—
M.4.2.2 b)	Single faults in charging circuitry .....:		—
M.4.3	Fire Enclosure		N/A
M.4.4	Endurance of equipment containing a secondary lithium battery		N/A
M.4.4.2	Preparation		N/A
M.4.4.3	Drop and charge/discharge function tests		N/A
	Drop		N/A
	Charge		N/A
	Discharge		N/A
M.4.4.4	Charge-discharge cycle test		N/A
M.4.4.5	Result of charge-discharge cycle test		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
M.5	Risk of burn due to short circuit during carrying	No risk of burn due to short-circuit of battery.	P
M.5.1	Requirement		N/A
M.5.2	Compliance and Test Method (Test of P.2.3)		N/A
M.6	Prevention of short circuits and protection from other effects of electric current	Short-circuit of cell performed as a part of approval according to IEC 60086-4 standard.	P
M.6.1	Short circuits		N/A
M.6.1.1	General requirements		N/A
M.6.1.2	Test method to simulate an internal fault		N/A
M.6.1.3	Compliance (Specify M.6.1.2 or alternative method) ..... :		N/A
M.6.2	Leakage current (mA) ..... :		N/A
M.7	Risk of explosion from lead acid and NiCd batteries	No such batteries.	N/A
M.7.1	Ventilation preventing explosive gas concentration		N/A
M.7.2	Compliance and test method		N/A
M.8	Protection against internal ignition from external spark sources of lead acid batteries		N/A
M.8.1	General requirements		N/A
M.8.2	Test method		N/A
M.8.2.1	General requirements		N/A
M.8.2.2	Estimation of hypothetical volume *Vz* (m^3/s)..... :		—
M.8.2.3	Correction factors..... :		—
M.8.2.4	Calculation of distance *d* (mm) ..... :		—
M.9	Preventing electrolyte spillage		N/A
M.9.1	Protection from electrolyte spillage		N/A
M.9.2	Tray for preventing electrolyte spillage		N/A
M.10	Instructions to prevent reasonably foreseeable misuse (Determination of compliance: inspection, data review; or abnormal testing) ..... :	No reasonably foreseeable misuse considered possible. See Summary of testing.	P
N	**ELECTROCHEMICAL POTENTIALS**		P
	Metal(s) used ..... :	Tinned Copper (ring terminals) in contact with High chromium stainless steel (nut and washer): 0.1 V High chromium stainless steel (nut and washer) in contact with aluminium (enclosure): 0.55 V	—

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
O	**MEASUREMENT OF CREEPAGE DISTANCES AND CLEARANCES**		P
	Figures O.1 to O.20 of this Annex applied ..... :	1 mm considered.	—
P	**SAFEGUARDS AGAINST ENTRY OF FOREIGN OBJECTS AND SPILLAGE OF INTERNAL LIQUIDS**		P
P.1	General requirements		P
P.2.2	Safeguards against entry of foreign object	No openings.	P
	Location and Dimensions (mm) ..... :		—
P.2.3	Safeguard against the consequences of entry of foreign object		N/A
P.2.3.1	Safeguards against the entry of a foreign object		N/A
	Openings in transportable equipment		N/A
	Transportable equipment with metalized plastic parts ..... :		N/A
P.2.3.2	Openings in transportable equipment in relation to metallized parts of a barrier or enclosure (identification of supplementary safeguard) ..... :		N/A
P.3	Safeguards against spillage of internal liquids		N/A
P.3.1	General requirements		N/A
P.3.2	Determination of spillage consequences		N/A
P.3.3	Spillage safeguards		N/A
P.3.4	Safeguards effectiveness		N/A
P.4	Metallized coatings and adhesive securing parts		N/A
P.4.2 a)	Conditioning testing		N/A
	Tc (°C) ..... :		—
	Tr (°C) ..... :		—
	Ta (°C) ..... :		—
P.4.2 b)	Abrasion testing ..... :		N/A
P.4.2 c)	Mechanical strength testing ..... :		N/A
Q	**CIRCUITS INTENDED FOR INTERCONNECTION WITH BUILDING WIRING**		N/A
Q.1	Limited power sources		N/A
Q.1.1 a)	Inherently limited output		N/A
Q.1.1 b)	Impedance limited output		N/A
	- Regulating network limited output under normal operating and simulated single fault condition		N/A
Q.1.1 c)	Overcurrent protective device limited output		N/A
Q.1.1 d)	IC current limiter complying with G.9		N/A
Q.1.2	Compliance and test method		N/A
Q.2	Test for external circuits – paired conductor cable		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Maximum output current (A) .....:		—
	Current limiting method.....:		—
R	**LIMITED SHORT CIRCUIT TEST**		N/A
R.1	General requirements		N/A
R.2	Determination of the overcurrent protective device and circuit		N/A
R.3	Test method Supply voltage (V) and short-circuit current (A)). .....:		N/A
S	**TESTS FOR RESISTANCE TO HEAT AND FIRE**		N/A
S.1	Flammability test for fire enclosures and fire barrier materials of equipment where the steady state power does not exceed 4 000 W		N/A
	Samples, material .....:		—
	Wall thickness (mm).....:		—
	Conditioning (°C).....:		—
	Test flame according to IEC 60695-11-5 with conditions as set out		N/A
	- Material not consumed completely		N/A
	- Material extinguishes within 30s		N/A
	- No burning of layer or wrapping tissue		N/A
S.2	Flammability test for fire enclosure and fire barrier integrity		N/A
	Samples, material .....:		—
	Wall thickness (mm).....:		—
	Conditioning (°C).....:		—
	Test flame according to IEC 60695-11-5 with conditions as set out		N/A
	Test specimen does not show any additional hole		N/A
S.3	Flammability test for the bottom of a fire enclosure		N/A
	Samples, material .....:		—
	Wall thickness (mm).....:		—
	Cheesecloth did not ignite		N/A
S.4	Flammability classification of materials		N/A
S.5	~~Flammability test for fire enclosures and fire barrier materials of equipment where the steady state power does not exceed 4 000 W~~ Flammability test for fire enclosure materials of equipment with a steady-state power exceeding 4000 W		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Samples, material .....:		—
	Wall thickness (mm).....:		—
	Conditioning (test condition), (°C) .....:		—
	Test flame according to IEC 60695-11-20 with conditions as set out		N/A
	After every test specimen was not consumed completely		N/A
	After fifth flame application, flame extinguished within 1 min		N/A
T	**MECHANICAL STRENGTH TESTS**		**P**
T.1	General requirements		P
T.2	Steady force test, 10 N .....:	(See appended table T.2)	P
T.3	Steady force test, 30 N .....:		N/A
T.4	Steady force test, 100 N .....:		N/A
T.5	Steady force test, 250 N .....:	(See appended table T.5)	P
T.6	Enclosure impact test	(See appended table T.6)	P
	Fall test		P
	Swing test	Fall test applied also to vertical surfaces.	N/A
T.7	Drop test .....:		N/A
T.8	Stress relief test .....:	Considered for plastic cover of antennas. (See appended table T.8)	P
T.9	Impact Test (glass)		P
T.9.1	General requirements		P
T.9.2	Impact test and compliance		P
	Impact energy (J).....:	3.5	—
	Height (m) .....:	714	—
T.10	Glass fragmentation test .....:		N/A
T.11	Test for telescoping or rod antennas		N/A
	Torque value (Nm) .....:		—
U	**MECHANICAL STRENGTH OF CATHODE RAY TUBES (CRT) AND PROTECTION AGAINST THE EFECTS OF IMPLOSION**		N/A
U.1	General requirements	No CRTs.	N/A
U.2	Compliance and test method for non-intrinsically protected CRTs		N/A
U.3	Protective Screen.....:		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
V	**DETERMINATION OF ACCESSIBLE PARTS (FINGERS, PROBES AND WEDGES)**		P
V.1	Accessible parts of equipment		P
V.2	Accessible part criterion		P

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict

4.1.2	TABLE: List of critical components				P
Object / part No.	**Manufacturer/ trademark**	**Type / model**	**Technical data**	**Standard**	**Mark(s) of conformity[1]**
Monitor					
Metallic enclosure	Aesys	73258341 73258318 73258207	Aluminium, minimum thickness 2.0 mm	IEC 62368-1 IEC 60950-22	Tested in appliance
Gasket between parts of enclosure	Sonderhoff	K31-A-9160-VP4 / K31-B-81	Polyurethane, sections 6x3 mm, 16x8 mm, 12x6 mm	IEC 62368-1 IEC 60950-22	Tested in appliance
Glass	Aesys	73258103	Tempered glass, 705x1152 mm, thickness 7.14 mm	IEC 62368-1	Tested in appliance
Plastic cover of WiFi/LTE antenna	Covestro Deutschland AG	6485 + (z)(f1)	Polycarbonate, thickness 3.0 mm, rated V-0, suitable for outdoor use, T125 °C	UL 746	UR (E41613)
Plastic cover of PMR antenna (outside fire enclosure)	LG Chem Co	ASA LI911	ASA, thickness 3.0 mm, rated HB, T50 °C	UL 746	UR (E67171)
Cooling fans on rear panel (8 provided)	Max Flow Electric Machinery Co. Ltd.	MFD12025BD2-HVBPF	0.29 A, 24 Vdc, IP67, body rated V-0, 4000 rpm, 139 CFM, maximum operating ambient temperature +70 °C, Class A assumed	IEC 62368-1	Tested in appliance
PWB	Jiangsu Sunyuan Aerospace Material Co Ltd	V-66	Thickness 1.6 mm, rated V-0, T130 °C	UL 746	UR (E214321)
Plastic frame and blades	Covestro Deutschland AG	6485 + (z)(f1)	Polycarbonate, thickness > 1.5 mm, rated V-0, suitable for outdoor use, T125 °C	UL 746	UR (E41613)
Internal cooling fans (4 provided) with	Max Flow Electric Machinery Co. Ltd.	MFL11025D2-VHBPF-IP67	0.44 A, 24 Vdc, IP67, body rated V-0, 5400 rpm, 52.2 CFM, maximum operating ambient temperature +70 °C, Class A assumed	IEC 62368-1	Tested in appliance

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict

PWB	Jiangsu Sunyuan Aerospace Material Co Ltd	V-65	Thickness 1.6 mm, rated V-0, T90 °C	UL 746	UR (E214321)
Plastic frame and blades	Covestro Deutschland AG	6485 + (z)(f1)	Polycarbonate, thickness > 1.5 mm, rated V-0, suitable for outdoor use, T125 °C	UL 746	UR (E41613)
Connectors in the bottom side of enclosure					
Mains connector	Harting	09462453420	16 A, 250 V, for AWG 14-16 conductors, body rated V-0, T70 °C	IEC/EN 61984	VDE
LAN connector	Harting	09 45 545 0041 (PushPull V4 series)	Body rated V-0, T70 °C	UL 1977	UR (E102079)
Optical fibre connector	Harting	09 57 442 0511 000	Body rated V-0.	UL 746	See Attachment 19 for details
Cable gland for audio cable	Lapp	53113321+531 19100	PC, body rated V-0, for Ø 3.5-7 mm cables, T100 °C	UL 514B	UR (E79903)
Vent	Wiska	EMVPS	Brass nickel-plated, T100 °C	IEC 62368-1 IEC 60950-22	Tested in appliance
Antenna connectors	Atel Antenna	T-CP153	Brass, SMA connector, IP67	IEC 62368-1 IEC 60950-22	Tested in appliance
Internal wirings					
Internal mains supply cable	I-Sheng	Cable: H05VV-F Connector: IS-14	PVC, 3G0.75 10 A, 250 V, C13	IEC 60227 EN 50525-2-11 IEC/EN 60320-1	VDE IMQ VDE
Mains conductors	Lapp	H05Z-K	1.5 mm^2, 300 V, T90 °C	EN 50525-3-41	HAR
Mains conductors (alternative)	Lapp	H07Z-K	1.5 mm^2, 450 V, T90 °C	EN 50525-3-41	HAR
Sleeving on mains conductors	Hellermann Tyton	HIS-PACK 9.5/4.7	Polyolefin, 600 V, initial Ø 9.5 mm, final Ø 4.7, thickness 0.60 mm, rated VW-1, T125 °C	UL 224	UR (E143529)
Protective bonding conductors	Lapp	H05Z-K	1.5-2.5 mm^2, 300 V, T90 °C	EN 50525-3-41	HAR
Protective bonding conductors (alternative)	Lapp	H07Z-K	1.5-2.5 mm^2, 450 V, T90 °C	EN 50525-3-41	HAR

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict

Ring terminals for protective bonding conductors (blue)	Cembre	BF-M6	PVC, 600 V, M6 screw, for 1.5-2.5 mm^2 conductors, T75 °C	UL 486	UR (E125401)
Audio cable	Lapp	OLFLEX Servo FD 798 CP (UL style 20236)	2x2x0.18 mm^2, rated VW-1, 30 V, T80 °C	UL 758	UR (E63634)
LAN cable	Lapp	ETHERLINE LAN Cat. 6A (s/n 24441316)	PC, 4x2x26 AWG, 50 V, rated V-0, T60 °C	UL 758	UR (E353543)
Optical fibre cable	Lapp	29031402	LSZH, T60 °C	IEC 62368-1	Tested in appliance
Sleeving on Optical fibre cable	Hellermann Tyton	HIS-PACK series	Polyolefin, 600 V, rated VW-1, T125 °C	UL 224	UR (E143529)
LVDS cable	Shenzhen Rongchun Industry Co Ltd	UL style 20276	PVC, 15x30 AWG, 30 V, rated VW-1, T80 °C	UL 758	UR (E319028)
Low voltage conductors	Lapp	H05Z-K	0.5/1.0/1.5 mm^2, 300 V, T90 °C	EN 50525-3-41	HAR
Low voltage conductors	Dongguan Zelongkang Wire Co., Ltd	UL style 1571	PVC, 28 AWG, 30 V, rated VW-1, T80 °C	UL 758	UR (E330488)
Low voltage conductors	Dongguan Zelongkang Wire Co., Ltd	UL style 1007	PVC, 20 AWG, 300 V, rated VW-1, T80 °C	UL 758	UR (E330488)
Low voltage conductors	Flamar Cavi Elettrici Srl	UL style 1569	PVC, 26 AWG, 300 V, rated VW-1, T105 °C	UL 758	UR (E172949)
Low voltage conductors	Agencavi Srl	UL style 1569	PVC, 24 AWG, 300 V, rated VW-1, T105 °C	UL 758	UR (E311955)
Cooling fans connection conductors	Alpha Wire	UL style 1007	PVC, 300 V, AWG 26/28, rated VW-1, T80 °C	UL 758	UR (E163869)
Cooling fans connection conductors	Interchangeable	UL style 1007	PVC, 300 V minimum, AWG 26/28, rated VW-1, T80 °C minimum	UL 758	UR or equivalent
Antenna cables (inside equipment)	RF Solutions	RG178	Coaxial cable, T155 °C	IEC 62368-1	Tested in appliance
Antenna cables (inside equipment)	Atel Antennas Srl	RG174	Coaxial cable, 50 Ω	IEC 62368-1	Tested in appliance
Sleeving on antenna cables	Hellermann Tyton	HIS-PACK series	Polyolefin, 600 V, rated VW-1, T125 °C	UL 224	UR (E143529)

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Clause	Requirement + Test	Result - Remark	Verdict

WiFi/LTE antenna cable (outside enclosure)	Nice Fountain Industrial Co Ltd	UL style 1354 (RG-174/U)	PVC, 30 V, 26 AWG, T105 °C	UL 758	UR (E156277)
White connectors in series with low voltage conductors (male, 2 ways)	Molex	94503-0200	Mass 1.434 g, T105 °C	IEC 62368-1	Tested in appliance
White connectors in series with low voltage conductors (female, 2 ways)	Tyco Electronics	180924-0	Body rated V-0, T105 °C	UL 1977	UR (E28476)
White connectors in series with low voltage conductors (male, 2 ways)	Molex	0039012020	13 A, body rated V-2, mass 0.657 g, T105 °C	UL 1977	UR (E29179)
White connectors in series with low voltage conductors (female, 2 ways)	Molex	5559 series	13 A, body rated V-2, mass 1.300 g, T105 °C	UL 1977	UR (E29179)
White connectors in series with low voltage conductors (male, 5 ways)	Molex	0039014050	13 A, body rated V-2, mass 1.300 g, T105 °C	UL 1977	UR (E29179)
White connectors in series with low voltage conductors (female, 5 ways)	Molex	5559 series (0039014052)	13 A, body rated V-2, mass 2.068 g, T105 °C	UL 1977	UR (E29179)
White connectors in series with low voltage conductors (male, 4 ways)	Molex	39012045	13 A, body rated V-0, mass 1.300 g, T105 °C	UL 1977	UR (E29179)
White connectors in series with low voltage conductors (female, 4 ways)	Molex	39012046	Body rated V-0, T105 °C	UL 1977	UR (E29179)
White connectors in series with low voltage conductors (male, 10 ways)	Molex	39012105	Body rated V-0, T105 °C	UL 1977	UR (E29179)
Other components					
Internal appliance inlet with integrated EMI filter, fuse-holder and functional switch	Schaffner	FN9289-4-100	4 A, 250 V, 50/60 Hz, body rated V-2, T85 °C L= 2 x 1.7 mH Cx= 220 nF Cy= 2 x 2.2 nF R = 1 MΩ	IEC/EN 60939-3 IEC/EN 60127-6 IEC/EN 60320-1	ENEC14
Mains fuses	Italweber (Hollyland)	0414005	T5 A L 250 V 5x 20 mm	IEC/EN 60127-2	IMQ

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Clause	Requirement + Test	Result - Remark	Verdict

Relay socket	Weidmuller	8869490000 (SRC-I 2CO)	8 A, 250 V, body rated V-0, distance between input-output 10 mm CL/CR, T70 °C	IEC/EN 61984 UL 508	VDE cURus (E223759)
Relay	Weidmuller	RCI424AB2	Coil: 12 Vdc, 400 mW Contacts: 8 A, 250 V, 1E6 cycles distance between coil and contacts 8 mm CL/CR, dielectric strength between coil and contacts 5 kV, Class A assumed	IEC/EN 61810-1	VDE
Terminal blocks with fuse holder	Wago	2002-1711	6.3 A, 250 V, body rated V-0, for 0.25-4 mm^2 conductors, T85 °C	IEC/EN 60947-7-3	KEMA
Fuses for heating element	Cooper Bussmann	S506 series	T3.15 A L 250 V 5x 20 mm	IEC/EN 60127-2	VDE
Earth terminal block	Wago	TOPJOB S 2002 series	24 A, 800 V, body rated V-0, for 0.25-4 mm^2 conductors, T85 °C	IEC/EN 60947-7-2	KEMA
AC/DC switching power supply	Mean Well	UHP-500R-24	Input: 5.8 A, 100-240 V, 50/60 Hz Output: 24 Vdc, 20.9 A Reinforced insulation between input and output, maximum operating ambient temperature +50 °C	IEC 62368-1	CB certificate ref. no. JPTUV-101581-M1
Terminal block for heating element on front panel	Wago	261 series	24 A, 500 V, body rated V-0, for 0.08-2.5 mm^2 conductors, T85 °C	IEC/EN 60998-1 IEC/EN 60998-2-1	KEMA
Heating elements on front panel with	Holroyd Components LTD	HOL6156230137A	230 V~, 1-1.19 W/cm^2, T175 °C	IEC/EN 60335-1 IEC 62368-1	VDE Tested in appliance
Connection conductors	Leoni	SIF-VDE	Silicone 300 V, T180 °C	VDE 0250	VDE
Sleeving	Hellermann Tyton	HIS-PACK 9.5/4.7	Polyolefin, 600 V, initial Ø 9.5 mm, final Ø 4.7, thickness 0.60 mm, rated VW-1, T125 °C	UL 224	UR (E143529)

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Clause	Requirement + Test	Result - Remark	Verdict

Safety thermostat	Asahi	US-622 (US622AXDVQO11003)	16 A, 250 V, 3E4 cycles, opening temperature 110 °C, T235 °C	IEC/EN 60730-1 IEC/EN 60730-2-9	VDE
Terminal block for audio cable	Wago	261 series	24 A, 500 V, body rated V-0, for 0.08-2.5 mm^2 conductors, T85 °C	IEC/EN 60998-1 IEC/EN 60998-2-1	KEMA
TFT panel with electronic boards	AU Optronics Corporation	P460HVN04.3	Control board: 12 Vdc, 1.2 A LED drive board: 24 Vdc 8.9 A Maximum operating ambient temperature + 50 °C	IEC/EN 60950-1	CB certificate ref. no. JPTUV-069262
TFT panel with electronic boards (alternative)	AU Optronics Corporation	P460HVN04.4	Control board: 12 Vdc, 1.2 A LED drive board: 24 Vdc 8.9 A Maximum operating ambient temperature + 50 °C	IEC/EN 60950-1	CB certificate ref. no. JPTUV-069262
Magnetic contact with	Cooper Safety	401 series	1 A, 60 V, weight 3.4 g, maximum operating ambient temperature + 50 °C	IEC 62368-1	Tested in appliance
Sleeving on cable	Hellermann Tyton	HIS-PACK 9.5/4.7	Polyolefin, 600 V, initial Ø 9.5 mm, final Ø 4.7, thickness 0.60 mm, rated VW-1, T125 °C	UL 224	UR (E143529)
PC board	Advantech	MIO-5251	12 Vdc, maximum operating ambient temperature +60 °C	IEC 62368-1	Tested in appliance (see Attachment 8 for details of critical components)
Text-to-speech board expansion board	Textspeak	TTS-EM-HD3-K2	12-18 Vdc, maximum operating ambient temperature +85 °C	IEC 62368-1	Tested in appliance (see Attachment 9 for details of critical components)

IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict
Text-to-speech board	Textspeak	TTS-EM	5 Vdc, maximum operating ambient temperature +85 °C	IEC 62368-1	Tested in appliance (see Attachment 10 for details of critical components)
Fibre-Ethernet converter	Primmcom	CS6011SC	12-60 Vdc or 18-36 V~, maximum operating temperature +75 °C	IEC 62368-1	Tested in appliance (see Attachment 16 for details of critical components)
Fibre-Ethernet converter (alternative)	Primmcom	CS8011SX-mini	12-56 Vdc, maximum operating temperature +75 °C	IEC 62368-1	Tested in appliance (see Attachment 16 for details of critical components)
Electronic board 1609					
PWB	Baselectron Srl	B	FR-4, thickness 1.6 mm, multilayer, rated V-0, T125 °C	UL 796	UR (E146514)
PWB (alternative)	Interchangeable	Interchangeable	FR-4, thickness 1.6 mm, multilayer, rated V-0, T125 °C minimum	UL 796	UR or equivalent
Input connector J1 (male)	Tyco Electronic Japan	D-3100S SMT (1-177662-5)	3 A, 250 V, body rated V-0, T105 °C	IEC 61984	TUV
Input connector J1 (female)	Tyco Electronic Japan	1-178288-5	250 V, body rated V-0, T105 °C	UL 1977	UR (E28476)
Fuse F1	Hollyland (Italweber)	50T	T10 A L 250 V~, 5x20 mm	UL 248-1 UL 248-14	UR (E156471)
Fuse F4	Littelfuse	400 series	T6.3 A 250 V, breaking capacity 100 A, body rated V-0, T85 °C	IEC 60127-1 IEC 60127-3	VDE
Connector J12	Molex	Micro-Fit series (p/n 430450609)	600 V, 8.5 A, body rated V-0, T105 °C	UL 1977	UR (E29179)
Connector J6 (male)	Molex	Micro-Fit series (p/n 430450409)	600 V, 8.5 A, body rated V-0, T105 °C	UL 1977	UR (E29179)
Connector J6 (female)	Molex	Micro-Fit series (p/n 430250400)	Body rated V-0, T105 °C	UL 1977	UR (E29179)

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Clause	Requirement + Test	Result - Remark	Verdict

Connector J13 (male)	Molex	Mini-Fit Jr. series (p/n 874270202)	600 V, 13 A, body rated V-0, T105 °C	UL 1977	UR (E29179)
Connector J13 (female)	Molex	Mini-Fit Jr. series (p/n 39012025)	Body rated V-0, T105 °C	UL 1977	UR (E29179)
Connector J14-B (male)	JST	B4B-PH-SM4-TB	2 A, 100 V, body rated V-0, T85 °C	IEC 61984 UL 1977	TUV UR (E60389)
Connector J14-B (female)	JST	PHR-4	2 A, 100 V, body rated V-0, T85 °C	IEC 61984 UL 1977	TUV UR (E60389)
Connector J4-B (male)	JST	B3B-PH-SM4-TB	2 A, 100 V, body rated V-0, T85 °C	IEC 61984 UL 1977	TUV UR (E60389)
Connector J4-B (female)	JST	PHR-3	2 A, 100 V, body rated V-0, T85 °C	IEC 61984 UL 1977	TUV UR (E60389)
Connector J2	Don Connex Electronics Co. Ltd.	C05g series	1 A, body rated V-0, T105 °C	UL 1977	UR (E163339)
Connector J17-B, J18-B (male)	JST	B8B-PH-SM4-TB	2 A, 100 V, body rated V-0, T85 °C	IEC 61984 UL 1977	TUV UR (E60389)
Connector J18-B (female)	JST	PHR-8	2 A, 100 V, body rated V-0, T85 °C	IEC 61984 UL 1977	TUV UR (E60389)
Connector J7 (male)	JST	B10B-PH-SM4-TB	2 A, 100 V, body rated V-0, T85 °C	IEC 61984 UL 1977	TUV UR (E60389)
Connector J18-B (female)	JST	PHR-10	2 A, 100 V, body rated V-0, T85 °C	IEC 61984 UL 1977	TUV UR (E60389)
Connector J16 (male)	Molex	Micro-Fit series (p/n 430451209)	600 V, 8.5 A, body rated V-0, T105 °C	UL 1977	UR (E29179)
Connector J16 (female)	Molex	Micro-Fit series (p/n 430251200)	Body rated V-0, T105 °C	UL 1977	UR (E29179)
Connector J15 (male)	Molex	Mini-Fit Jr. series (p/n 874270402)	600 V, 13 A, body rated V-0, T105 °C	UL 1977	UR (E29179)
Connector J15 (female)	Molex	Mini-Fit Jr. series (p/n 39013042)	13 A, body rated V-2, T105 °C	UL 1977	UR (E29179)
Electronic board 1617					
PWB	Baselectron	A	FR-4, thickness 1.6 mm, single layer, double sided, rated V-0, T125 °C	UL 796	UR (E146514)

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Clause	Requirement + Test	Result - Remark	Verdict

PWB (alternative)	Interchangeable	Interchangeable	FR-4, thickness 1.6 mm, single layer, double sided, rated V-0, T105 °C minimum	UL 796	UR or equivalent
Connector J2, J3 (male)	Molex	43045-0418	8.5 A, 600 V, body rated V-0, T105 °C	UL 1977	UR (E29179)
Connector J2, J3 (female)	Molex	43025-0400	Body rated V-0, T105 °C	UL 1977	UR (E29179)
Connector J4	Don Connex	C05g series	1 A, body rated V-0, T105 °C	UL 1977	UR (E163339)
Electronic board 1718					
PWB	Baselectron	A	FR-4, thickness 1.6 mm, single layer, double sided, rated V-0, T125 °C	UL 796	UR (E146514)
PWB (alternative)	Interchangeable	Interchangeable	FR-4, thickness 1.6 mm, single layer, double sided, rated V-0, T105 °C minimum	UL 796	UR or equivalent
Connector J1 (male)	JST	B10B-PH-SM4-TB	2 A, 100 V, body rated V-0, T85 °C	IEC 61984 UL 1977	TUV UR (E60389)
Connector J1 (female)	JST	PHR-10	2 A, 100 V, body rated V-0, T85 °C	IEC 61984 UL 1977	TUV UR (E60389)
Electronic board 1727					
PWB	Baselectron	A	FR-4, thickness 1.6 mm, single layer, double sided, rated V-0, T125 °C	UL 796	UR (E146514)
PWB (alternative)	Interchangeable	Interchangeable	FR-4, thickness 1.6 mm, single layer, double sided, rated V-0, T105 °C minimum	UL 796	UR or equivalent
Connector J1 (male)	JST	B5B-PH-SM4-TB	2 A, 100 V, body rated V-0, T85 °C	IEC 61984 UL 1977	TUV UR (E60389)
Connector J1 (female)	JST	PHR-5	2 A, 100 V, body rated V-0, T85 °C	IEC 61984 UL 1977	TUV UR (E60389)
Radio Module with	Sparklan	WUBA-171GN	5 Vdc, 950 mA, maximum operating ambient temperture +75 °C	IEC 62368-1	Tested in appliance
PWB	Eiso Enterprise Co Ltd	3	Thickness 1 mm, rated V-0, T130 °C	UL 796	UR (E162861)
Electronic board 1814					

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict

PWB	Baselectron	A	FR-4, thickness 1.6 mm, single layer, double sided, rated V-0, T125 °C	UL 796	UR (E146514)
Connector J1B (male)	JST	B8B-PH-SM4-TB	2 A, 100 V, body rated V-0, T85 °C	IEC 61984 UL 1977	TUV UR (E60389)
Connector J1B (female)	JST	PHR-8	2 A, 100 V, body rated V-0, T85 °C	IEC 61984 UL 1977	TUV UR (E60389)
Connector J2	Samtec	11039220-004 (ESQ series)	Body rated V-0	UL 1977	UR (E111594)
Connector J3	Samtec	11039220-005 (ESQ series)	Body rated V-0	UL 1977	UR (E111594)
Connector J5	Samtec	11039834 (ESQ series)	Body rated V-0	UL 1977	UR (E111594)
Electronic board over electronic board 1814					
PWB	Shenzhen Golden Board Circuit Co Ltd	JYH-1	FR-4, thickness 1.6 mm, single layer, double sided, rated V-0, T130 °C	UL 796	UR (E489124)
Electronic board 1043A					
PWB	Baselectron	A	FR-4, thickness 1.6 mm, single layer, double sided, rated V-0, T125 °C	UL 796	UR (E146514)
PWB (alternative)	Interchangeable	Interchangeable	FR-4, thickness 1.6 mm, single layer, double sided, rated V-0, T105 °C minimum	UL 796	UR or equivalent
Connector J1 (male)	Molex	43045-0418	8.5 A, 600 V, body rated V-0, T105 °C	UL 1977	UR (E29179)
Connector J1 (female)	Molex	43025-0400	Body rated V-0, T105 °C	UL 1977	UR (E29179)
Sound bar (accessory)					
Metallic enclosure	Aesys	65 046 405	Aluminium, 1109x48x85 mm, minimum thickness 2.0 mm	IEC 62368-1	Tested in appliance
Gasket	Tuvu Gomma	T160	EPDM, dimensions 228x78x2 mm	IEC 62368-1	Tested in appliance
Cable gland for audio cable	Lapp	53113321+53119100	PC, body rated V-0, for Ø 3.5-7 mm cables, T100 °C	UL 514B	UR (E79903)
Speaker	Fountek	FR58EX	8 Ω, 15 W	IEC 62368-1	Tested in appliance

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Clause	Requirement + Test	Result - Remark	Verdict

Speaker (alternative)	Dayton Audio	ND64-4	4 Ω, 15 W	IEC 62368-1	Tested in appliance
Speaker connection conductors	Lapp	H05Z-K	1.0 mm^2, 300 V, T90 °C	EN 50525-3-41	HAR
Internal electronic board	Axiomedia	AMPALC	8-30 Vdc	IEC 62368-1	Tested in appliance (see Attachment 13 for details of critical components)
Supplementary information: 1) Provided evidence ensures the agreed level of compliance. See OD-CB2039.					

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict

4.8.4, 4.8.5	**TABLE: Lithium coin/button cell batteries mechanical tests**	N/A

(The following mechanical tests are conducted in the sequence noted.)

4.8.4.2 TABLE: Stress Relief test —

Part	Material	Oven Temperature (°C)	Comments
-	-	-	-

4.8.4.3 TABLE: Battery replacement test —

Battery part no. .....: —

Battery Installation/withdrawal	Battery Installation/Removal Cycle	Comments
	1	-
	2	-
	3	-
	4	-
	5	-
	6	-
	8	-
	9	-
	10	-

4.8.4.4 TABLE: Drop test —

Impact Area	Drop Distance	Drop No.	Observations
-	-	1	-
-	-	2	-
-	-	3	-

4.8.4.5 TABLE: Impact —

Impacts per surface	Surface tested	Impact energy (Nm)	Comments
-	-	-	-
-	-	-	-
-	-	-	-

4.8.4.6 TABLE: Crush test —

Test position	Surface tested	Crushing Force (N)	Duration force applied (s)
-	-	-	-
-	-	-	-

Supplementary information:

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Clause	Requirement + Test	Result - Remark	Verdict

4.8.5	TABLE: Lithium coin/button cell batteries mechanical test result		N/A
Test position	Surface tested	Force (N)	Duration force applied (s)
-	-	-	-
-	-	-	-
-	-	-	-
Supplementary information:			

5.2	Table: Classification of electrical energy sources						P
5.2.2.2 – Steady State Voltage and Current conditions							
No.	Supply Voltage	Location (e.g. circuit designation)	Test conditions	Parameters			ES Class
				U (Vrms or Vpk)	I (Apk or Arms)	Hz	
Monitor							
1	220-240	Primary circuits	Normal	-	-	-	ES3*
			Abnormal	-	-	-	
			Single fault – SC/OC	-	-	-	
2	220-240	Pins of plug	Normal	374 Vpeak	-	-	ES3
			Abnormal	-	-	-	
			Single fault – SC/OC	-	-	-	
3	220-240	Secondary circuits except output of LED driver of TFT panel	Normal	**24.24 Vdc	-	-	ES1**
			Abnormal	-	-	-	
			Single fault – SC/OC	-	-	-	
4	220-240	Output of LED driver of TFT panel	Normal	-	-	-	ES3*
			Abnormal	-	-	-	
			Single fault – SC/OC	-	-	-	
Sound bar							
1	8-30 Vdc	All circuit except audio circuits towards loudspeaker	Normal	30 Vdc	-	-	ES1
			Abnormal	30 Vdc	-	-	
			Single fault – SC/OC	30 Vdc	-	-	
2	8-30 Vdc	Audio circuits towards	Normal	3 Vrms	-	-	ES1
			Abnormal	3 Vrms	-	-	

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict

5.2	Table: Classification of electrical energy sources	P

5.2.2.2 – Steady State Voltage and Current conditions

No.	Supply Voltage	Location (e.g. circuit designation)	Test conditions	Parameters			ES Class
				U (Vrms or Vpk)	I (Apk or Arms)	Hz	
		loudspeaker	Single fault – SC/OC	30 Vdc	-	-	

*Considered
**Data taken from CB test report of AC/DC switching power supply

5.2.2.3 - Capacitance Limits

No.	Supply Voltage	Location (e.g. circuit designation)	Test conditions	Parameters		ES Class
				Capacitance, nF	Upk (V)	
-	-	-	Normal	-	-	-
			Abnormal	-	-	
			Single fault – SC/OC	-	-	

5.2.2.4 - Single Pulses

No.	Supply Voltage	Location (e.g. circuit designation)	Test conditions	Parameters			ES Class
				Duration (ms)	Upk (V)	Ipk (mA)	
-	-	-	Normal	-	-	-	-
			Abnormal	-	-	-	
			Single fault – SC/OC	-	-	-	

5.2.2.5 - Repetitive Pulses

No.	Supply Voltage	Location (e.g. circuit designation)	Test conditions	Parameters			ES Class
				Off time (ms)	Upk (V)	Ipk (mA)	
-	-	-	Normal	-	-	-	-
			Abnormal	-	-	-	
			Single fault – SC/OC	-	-	-	

Test Conditions:
Normal –
Abnormal -
Supplementary information: SC=Short Circuit, OC=Short Circuit

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict

5.4.1.4, 6.3.2, 9.0, B.2.6	**TABLE: Temperature measurements**					P
	Supply voltage (V) ..... :	198 V 50 Hz	264 V 50 Hz	198 V 50 Hz	264 V 50 Hz	—
	Ambient T_{min} (°C) ..... :	25	25	50	50	—
	Ambient T_{max} (°C) ..... :	25	25	50	50	—
	Tma (°C) ..... :	50	50	50	50	—
Maximum measured temperature T of part/at:		T (°C)				Allowed T_{max} (°C)
Monitor						
Metallic enclosure (rear side)		33.5	33.0	-	-	70[1)]
Glass (front side)		36.8	36.5	-	-	85[1)]
Plastic cover of WiFi/LTE antenna		27.8	27.5	-	-	94[1)]
Plastic cover of PMR antenna		27.0	26.7	-	-	94[1)]
Cooling fan on rear panel (Class A assumed)		-	-	66.4	66.5	100
Internal cooling fan (Class A assumed)		-	-	61.5	60.9	100
Mains connector (T70 °C)		-	-	60.3	59.7	70
Internal mains supply cable (T70 °C)		-	-	60.5	59.9	70
Mains conductors (T90 °C)		-	-	65.1	64.1	90
Audio cable (T70 °C)		-	-	64.5	63.7	70
Low voltage conductors (T80 °C)		-	-	67.0	66.4	80
Internal appliance inlet with integrated EMI filter, fuse-holder and functional switch (T85 °C)		-	-	66.9	65.8	85
Relay socket (T70 °C)		-	-	65.9	65.6	70
Relay (Class A assumed)		-	-	65.2	65.1	90
Terminal block with fuse holder (T85 °C)		-	-	64.8	64.0	85
Transformer T1 inside AC/DC switching power supply (Class B[3)])		-	-	62.8	61.6	110
Terminal block for heating element on front panel (T85 °C)		-	-	60.5	59.9	85
Heating element on front panel (T175 °C)		-	-	80.6	80.5	175
PCB close to Inductor L5 of driver board of TFT display (T105 °C[3)])		-	-	82.4	81.5	105
Inductor L3 of driver board of TFT display (T105 °C[3)])		-	-	83.7	82.8	105
Capacitor C265 of driver board of TFT display (T85 °C[3)])		-	-	81.6	81.2	85
Electronic board 1609						

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Clause	Requirement + Test	Result - Remark	Verdict

5.4.1.4, 6.3.2, 9.0, B.2.6	**TABLE: Temperature measurements**					P
	Supply voltage (V) ..... :	198 V 50 Hz	264 V 50 Hz	198 V 50 Hz	264 V 50 Hz	—
	Ambient T_{min} (°C) ..... :	25	25	50	50	—
	Ambient T_{max} (°C) ..... :	25	25	50	50	—
	Tma (°C) ..... :	50	50	50	50	—
Maximum measured temperature T of part/at:		T (°C)				Allowed T_{max} (°C)
PWB (T125 °C)		-	-	70.1	69.7	125
Input connector J1 (T105 °C)		-	-	68.4	68.2	105
Fuse F4 (T85 °C)		-	-	69.2	69.0	85
Electronic board 1617						
PWB (T125 °C)		-	-	73.0	72.4	125
Electronic board 1718						
PWB (T125 °C)		-	-	57.1	56.8	125
Electronic board 1727						
PWB (T125 °C)		-	-	59.3	59.2	125
Radio Module (T75 °C)				70.8	70.5	75
Electronic board 1814						
PWB (T125 °C)		-	-	66.1	65.6	125
Electronic board 1043A						
PWB (T125 °C)		-	-	66.2	65.1	125
PC board mod. MIO-5251 manufactured by Advantech						
PWB (T130 °C)		-	-	77.5	77.1	130
Fuse FS1 (T125 °C)		-	-	72.3	71.6	125
PTC PS5 (T85 °C)		-	-	72.5	73.4	85
Ambient temperature of SSD (T70 °C)		-	-	66.1	67.2	70
DRAM Module (T85 °C)		-	-	66.6	66.9	85
Radio module (T85 °C)				72.9	72.8	85
Battery (T70 °C)		-	-	68.1	68.2	70
Electronic board mod. TTS-EM-I20 manufactured by Textspeak						
PWB (T130 °C)		-	-	74.7	73.7	130
Fibre-Ethernet converter mod. CS6011SC by Primmcom						
Electronic board 40000301						
PWB (T130 °C)		-	-	68.7	68.6	130

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Clause	Requirement + Test	Result - Remark	Verdict

5.4.1.4, 6.3.2, 9.0, B.2.6	**TABLE: Temperature measurements**					P
	Supply voltage (V) ..... :	198 V 50 Hz	264 V 50 Hz	198 V 50 Hz	264 V 50 Hz	—
	Ambient T_{min} (°C) ..... :	25	25	50	50	—
	Ambient T_{max} (°C) ..... :	25	25	50	50	—
	Tma (°C) ..... :	50	50	50	50	—
Maximum measured temperature T of part/at:		T (°C)				Allowed T_{max} (°C)
Connector CN1 (T115 °C)		-	-	68.0	68.0	115
Common mode inductor L2 (Class A assumed)		-	-	68.1	68.0	90[2)]
Electronic board 40000402						
PWB (T130 °C)		-	-	71.5	71.4	130
Optical transceiver J2 (T85 °C)		-	-	72.5	72.4	85
Fibre-Ethernet converter mod. CS8011SX-mini by Primmcom						
Electronic board EPCB200501						
PWB (T130 °C)		-	-	69.2	68.9	130
Connector CN1 (T115 °C)		-	-	68.7	68.3	115
Common mode inductor L2 (Class A assumed)		-	-	68.4	68.4	90[2)]
Electronic board EPCB200511						
PWB (T130 °C)		-	-	71.6	71.5	130
Optical transceiver J2 (T85 °C)		-	-	72.7	72.6	85
Supplementary information:						
[1)]External surface that needs not be touched to operate equipment [2)]Thermocouple method used, limit decreased by 10 K. [3)]Information taken from CB test report of subassembly						

Temperature T of winding:	t_1 (°C)	R_1 (Ω)	t_2 (°C)	R_2 (Ω)	T (°C)	Allowed T_{max} (°C)	Insulation class
-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-
Supplementary information:							
Supplementary information: Note 1: Tma should be considered as directed by appliable requirement Note 2: Tma is not included in assessment of Touch Temperatures (Clause 9)							

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Clause	Requirement + Test	Result - Remark	Verdict

5.4.1.4, 6.3.2, 9.0, B.2.6	**TABLE: Temperature measurements**					P
	Supply voltage (V) ..... :	8 Vdc	30 Vdc	8 Vdc	30 Vdc	—
	Ambient T_{min} (°C) ..... :	25	25	50	50	—
	Ambient T_{max} (°C) ..... :	25	25	50	50	—
	Tma (°C) ..... :	50	50	50	50	—
Maximum measured temperature T of part/at:		T (°C)				Allowed T_{max} (°C)
Sound bar						
Metallic enclosure (rear side)		28.7	29.5	-	-	70[1)]
Speaker connection conductors (T90 °C)		-	-	54.1	59.2	90
Internal electronic board						
PWB (T130 °C)		-	-	60.0	86.6	105
Supply Connector J12 (T105 °C)		-	-	58.5	71.6	105
PTC F1 (T85 °C)		-	-	61.2	73.8	85
DC/DC converter U11 (T100 °C)		-	-	63.7	87.9	100
DC/DC converter U13 (T100 °C)		-	-	62.4	88.1	100
Audio amplifier U8 (T85 °C)		-	-	63.5	75.2	85
Supplementary information:						
[1)]External surface that needs not be touched to operate equipment						

Temperature T of winding:	t_1 (°C)	R_1 (Ω)	t_2 (°C)	R_2 (Ω)	T (°C)	Allowed T_{max} (°C)	Insulation class
-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-
Supplementary information:							
Supplementary information: Note 1: Tma should be considered as directed by appliable requirement Note 2: Tma is not included in assessment of Touch Temperatures (Clause 9)							

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Clause	Requirement + Test	Result - Remark	Verdict

5.4.1.10.2	TABLE: Vicat softening temperature of thermoplastics		N/A
Penetration (mm)..... :			—
Object/ Part No./Material		Manufacturer/trademark	T softening (°C)
-		-	-
-		-	-
-		-	-
Supplementary information:			

5.4.1.10.3	TABLE: Ball pressure test of thermoplastics		P
Allowed impression diameter (mm) ..... :		≤ 2 mm	—
Object/Part No./Material	Manufacturer/trademark	Test temperature (°C)	Impression diameter (mm)
-	-	-	-
-	-	-	-
-	-	-	-
Supplementary information:			
Separately approved components and subassemblies have been considered to comply with requirements.			

5.4.2.2, 5.4.2.4 and 5.4.3	TABLE: Minimum Clearances/Creepage distance						P
Clearance (cl) and creepage distance (cr) at/of/between:	Up (V)	U r.m.s. (V)	Frequency (kHz)[1]	Required cl (mm)	cl (mm)[2]	Required[3] cr (mm)	cr (mm)
Between primary circuits and protective earth on mains connector	340	240	-	1.27	>3.5	2.5	>3.5
Between primary circuits and protective earth on Internal appliance inlet with integrated EMI filter, fuse-holder and functional switch	340	240	-	1.27	>3.5	2.5	>3.5
Between primary and protective earth inside AC/DC switching power supply	420	250	-	1.27	1)	2.5	1)
Between primary and secondary circuits on relay socket	340	240	-	2.54	>10	5.0	>10
Between primary and secondary circuits inside relay	340	240	-	2.54	8.00	5.0	8.00
Between primary and secondary	480	267	100	2.54	1)	5.4	1)

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Clause	Requirement + Test	Result - Remark	Verdict

circuits inside AC/DC switching power supply							
Supplementary information:							
Note 1: Only for frequency above 30 kHz Note 2: See table 5.4.2.4 if this is based on electric strength test Note 3: Provide Material Group [1)] AC/DC switching power supply is separately approved according to IEC62368-1, it has been considered to comply with requirements.							

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Clause	Requirement + Test	Result - Remark	Verdict

5.4.2.3	**TABLE: Minimum Clearances distances using required withstand voltage**			P
	Overvoltage Category (OV):			II
	Pollution Degree:			2
Clearance distanced between:		Required withstand voltage	Required cl (mm)	Measured cl (mm)
Between primary circuits and protective earth on mains connector		2500	1.5	>3.5
Between primary circuits and protective earth on Internal appliance inlet with integrated EMI filter, fuse-holder and functional switch		2500	1.5	>3.5
Between primary and protective earth inside AC/DC switching power supply		2500	1.5	1)
Between primary and secondary circuits on relay socket		2500	3.0	>10
Between primary and secondary circuits inside relay		2500	3.0	8.00
Between primary and secondary circuits inside AC/DC switching power supply		2500	3.0	1)
Supplementary information:				
1) AC/DC switching power supply is separately approved according to IEC 62368-1, it has been considered to comply with requirements.				

5.4.2.4	**TABLE: Clearances based on electric strength test**			N/A
Test voltage applied between:		Required cl (mm)	Test voltage (kV) peak/ r.m.s. / d.c.	Breakdown Yes / No
-		-	-	-
-		-	-	-
-		-	-	-
Supplementary information:				

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict

5.4.4.2, 5.4.4.5 c) 5.4.4.9	TABLE: Distance through insulation measurements	P

Distance through insulation di at/of:	Peak voltage (V)	Frequency (kHz)	Material	Required DTI (mm)	DTI (mm)
Between primary and secondary circuits inside AC/DC switching power supply	480	100	1)	1)	1)
Between primary circuits and protective earth inside heating element on front panel	340	-	2)	2)	2)
Across sleeving on mains conductors	340	-	Polyolefin	0.4	0.60
Supplementary information:					
1) AC/DC switching power supply is separately approved according to IEC62368-1, it has been considered to comply with requirements. 2)Basic insulation only, no construction requirements					

5.4.9	TABLE: Electric strength tests	P

Test voltage applied between:	Voltage shape (AC, DC)	Test voltage (V)	Breakdown Yes / No
Functional:			
Between Line and neutral before internal appliance inlet with integrated EMI filter, fuse-holder and functional switch	AC	1768	No
Basic/supplementary:			
Between primary circuits and protective earth	AC	1768	No
Across sleeving on mains conductors	AC	1768	No
Reinforced:			
Between primary circuits and secondary circuits	AC	2828	No
Between output of driver board and external surface of glass	AC	2828	No
Routine Tests:			
Supplementary information:			

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict

5.5.2.2	TABLE: Stored discharge on capacitors				P
Supply Voltage (V), Hz	Test Location	Operating Condition (N, S)	Switch position On or off	Measured Voltage (after 2 seconds)	ES Classification
264 V, 60 Hz	Line-neutral	N	-	0 V	ES1
264 V, 60 Hz	Line-neutral	S (BD1 O-c)	-	0 V	ES1
264 V, 60 Hz	Line-neutral	Fuse open	-	0 V	ES1
Supplementary information:					
X-capacitors installed for testing are: 2 x 1 µF (inside AC/DC switching power supply) + 1 x 0.22 µF (inside internal appliance inlet with integrated EMI filter, fuse-holder and functional switch) [X] bleeding resistor rating: 390 kΩ (four 390 kΩ resistor in series/parallel inside AC/DC switching power supply) + 1 MΩ (inside internal appliance inlet with integrated EMI filter, fuse-holder and functional switch) [ ] ICX: Notes: A. Test Location: Phase to Neutral; Phase to Phase; Phase to Earth; and/or Neutral to Earth B. Operating condition abbreviations: N – Normal operating condition (e.g., normal operation, or open fuse); S –Single fault condition					

5.6.6.2	TABLE: Resistance of protective conductors and terminations			P
Accessible part	Test current (A)	Duration (min)	Voltage drop (V)	Resistance (Ω)
Metallic enclosure	32 A	2	2.336	0.073
Earthing terminal of AC/DC switching power supply	32 A	2	2.112	0.066
-	-	-	-	-
Supplementary information:				

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict

5.7.2.2, 5.7.4	TABLE: Earthed accessible conductive part		P
Supply voltage .....:		264 V, 60 Hz	—
Location		Test conditions specified in 6.1 of IEC 60990 or Fault Condition No in IEC 60990 clause 6.2.2.1 through 6.2.2.8, except for 6.2.2.7	Touch current (mA)
		1	0.622
		2*	-
		3	0
		4	-
		5	0
		6	-
		8	-

Supplementary Information:

Notes:
[1] Supply voltage is the anticipated maximum Touch Voltage
[2] Earthed neutral conductor [Voltage differences less than 1% or more]
[3] Specify method used for measurement as described in IEC 60990 sub-clause 4.3
[4] IEC60990, sub-clause 6.2.2.7, Fault 7 not applicable.
[5] (*) IEC60990, sub-clause 6.2.2.2 is not applicable if switch or disconnect device (e.g., appliance coupler) provided.

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict

6.2.2	Table: Electrical power sources (PS) measurements for classification				P
Source	Description	Measurement	Max Power after 3 s	Max Power after 5 s*)	PS Classification
A	All circuits inside Monitor except antennas	Power (W) :	-	-	PS3*
		V_A (V) :	-	-	
		I_A (A) :	-	-	
B	Antennas	Power (W) :	**	-	PS1
		V_A (V) :	**	-	
		I_A (A) :	**	-	
C	All circuits inside Sound bar	Power (W) :	-	-	PS3*
		V_A (V) :	-	-	
		I_A (A) :	-	-	
D	-	Power (W) :	-	-	-
		V_A (V) :	-	-	
		I_A (A) :	-	-	
Supplementary Information:					
(*) Measurement taken only when limits at 3 seconds exceed PS1 limits *Considered. **Signal connection only, it has been considered as a PS1 without additional evaluations.					

6.2.3.1	Table: Determination of Potential Ignition Sources (Arcing PIS)			P
Location	Open circuit voltage After 3 s (Vp)	Measured r.m.s current (Irms)	Calculated value (V_p x I_{rms})	Arcing PIS? Yes / No
All circuits and parts inside monitor except antennas	-	-	-	Yes*
-	-	-	-	-
-	-	-	-	-
Supplementary information:				
An Arcing PIS requires a minimum of 50 V (peak) a.c. or d.c. An Arcing PIS is established when the product of the open circuit voltage (V_p) and normal operating condition rms current (I_{rms}) is greater than 15. *Considered.				

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict

6.2.3.2	Table: Determination of Potential Ignition Sources (Resistive PIS)				P
Circuit Location (x-y)	Operating Condition (Normal / Describe Single Fault)	Measured wattage or VA During first 30 s (W / VA)	Measured wattage or VA After 30 s (W / VA)	Protective Circuit, Regulator, or PTC Operated? Yes / No (Comment)	Resistive PIS? Yes/No
All circuits and parts inside monitor except antennas	-	-	-	-	Yes*
All circuits and parts inside sound bar	-	-	-	-	Yes*
Supplementary Information:					
A combination of voltmeter, VA and ammeter IA may be used instead of a wattmeter. If a separate voltmeter and ammeter are used, the product of (VA x IA) is used to determine Resistive PIS classification. A Resistive PIS: (a) dissipates more than 15 W, measured after 30 s of normal operation, or (b) under single fault conditions has either a power exceeding 100 W measured immediately after the introduction of the fault if electronic circuits, regulators or PTC devices are used, or has an available power exceeding 15 W measured 30 s after introduction of the fault. *Considered.					

8.5.5	TABLE: High Pressure Lamp	N/A
Description	Values	Energy Source Classification
Lamp type.....:		—
Manufacturer .....:		—
Cat no. .....:		—
Pressure (cold) (MPa).....:		MS_
Pressure (operating) (MPa) .....:		MS_
Operating time (minutes) .....:		—
Explosion method .....:		—
Max particle length escaping enclosure (mm) .:		MS_
Max particle length beyond 1 m (mm).....:		MS_
Overall result .....:		
Supplementary information:		

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict

B.2.5	TABLE: Input test							P
U (V)	Hz	I (A)	I rated (A)	P (W)	P rated (W)	Fuse No	I fuse (A)	Condition/status
Monitor								
198	50	2.623	-	511.9	-	1)	2.623	2)
220	50	2.528	2.7	550.2	-	1)	2.528	2)
240	50	2.475	2.7	585.4	-	1)	2.475	2)
264	50	2.449	-	632.1	-	1)	2.449	2)
198	60	2.625	-	512.2	-	1)	2.625	2)
220	60	2.537	2.7	547.9	-	1)	2.537	2)
240	60	2.484	2.7	584.8	-	1)	2.484	2)
264	60	2.456	-	632.9	-	1)	2.456	2)
Sound bar								
8	d.c.	0.243	3	1.944	-	3)	-	4)
30	d.c	0.136	3	4.08	-	3)	-	4)

Supplementary information:

Equipment may be have rated current or rated power or both. Both should be measured
1)5 A fuses inside internal appliance inlet with integrated EMI filter, fuse-holder and functional switch
2)Three-bar signal displayed, with brightness set at maximum level, sound bar connected and loaded with 1/8 of non-clipped output power of internal loudspeaker, heating elements forced in on conditions.
3)No fuses inside Sound bar, it is supply directly from output of AC/DC switching power supply inside monitor.
4)Loaded with 1/8 of non-clipped output power of internal loudspeaker.

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict

B.3	TABLE: Abnormal operating condition tests							P
Ambient temperature (°C) .....:				25 °C				—
Power source for EUT: Manufacturer, model/type, output rating ..:				Zenone, mod. GVS300GL, 21-300 V~, 6000 VA				—
Component No.	Abnormal Condition	Supply voltage, (V)	Test time (s)	Fuse no.	Fuse current, (A)	T-couple	Temp. (°C)	Observation
Monitor								
Ethernet port	Short-circuit	90/264 V 60 Hz	3600	1)	-	-	-	Ethernet connection is a signal connection only. No other due to its short-circuit.
Sound bar								
Audio signal	Maximum power into rated load	8-30 Vdc	7200	2)	-	-	-	Same condition has been considered for heating test (worst case).
Audio signal	Rated power into S-c	8-30 Vdc	7200	2)	-	-	-	Electronic board goes into protection. Audio signal is not generated. No hazard.

Supplementary information:

Test table is provided to record abnormal and fault conditions for all applicable energy sources including Thermal burn injury. Column “Abnormal/Fault.” Specify if test condition by indicating “Abnormal” then the condition for a Clause B.3 test or “Single Fault” then the condition for Clause B.4.

1) 5 A fuses inside internal appliance inlet with integrated EMI filter, fuse-holder and functional switch.

2)No fuses inside Sound bar, it is supply directly from output of AC/DC switching power supply inside monitor.

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict

B.4	TABLE: Fault condition tests		P
Ambient temperature (°C) .....:		25 °C	—
Power source for EUT: Manufacturer, model/type, output rating .:		Zenone, mod. GVS300GL, 21-300 V~, 6000 VA	—

Component No.	Fault Condition	Supply voltage, (V)	Test time (s)	Fuse no.	Fuse current, (A)	T-couple	Temp. (°C)	Observation
Monitor								
Heating elements	Continuously powered	264 V, 50 Hz	7200	1)	1.452	Metallic enclosure	39.1	Heating elements on front side of enclosure are protected by internal safety thermostats at 115 °C. No temperature on accessinle parts above ES2 limits, no fire, no molten metal, no damage to insulation. No hazard.
Air holes (external)	Closed	264 V, 50 Hz	7200	1)	-	-	-	No relevant overheating recorded. Cooling fans are not continuously driven.
Cooling fan in the rear side of equipment	Locked (one at a time)	264 V, 50 Hz	7200	1)	-	-	-	Cooling fan is self-protected against locking of its motor. No relevant overheating. The other cooling fans are able to dissipate heat adequately. No hazard, no high temperatures.

IEC 62368-1								
Clause	Requirement + Test				Result - Remark			Verdict
Cooling fan in the front side of equipment	Locked (one at a time)	264 V, 50 Hz	7200	1)	-	-	-	Cooling fan is self-protected against locking of its motor. No relevant overheating. The other cooling fans are able to dissipate heat adequately. No hazard, no high temperatures.
Line and Neutral after Internal appliance inlet with integrated EMI filter, fuse-holder and functional switch	Short-circuit	198 V, 50 Hz	1	1)	>40	-	-	Fuses inside Internal appliance inlet with integrated EMI filter, fuse-holder and functional switch immediately operate. Equipment does not work.
Electronic board 1609								
Diode D3	Short-circuit	198/264 V 60 Hz	1 h	1)	<0.100	-	-	Fault equivalent to short-circuit of output of AC/DC switching power supply, it works in hiccup mode. The equipment does not work. No hazard, no high temperatures.
IC U1 (Pin 7-8)	Short-circuit	198/264 V 60 Hz	1 h	1)	-	-	-	Internal voltage +PC_VCC# is linked to output of AC/DC switching power supply, internal +PC_VCC# is 24 Vdc instead of 12 Vdc, several components are damaged. Equipment does not work. No hazard, no high temperatures.

IEC 62368-1								
Clause	Requirement + Test				Result - Remark			Verdict
Diode D1	Short-circuit	198/264 V 60 Hz	1 h	1)	-	-	-	Output of U1 is short-circuited, +PC_VCC# is not generated. U1 is self-protected against short-circuit of its output. Equipment does not work. No hazard, no high temperatures.
Electrolytic capacitor C7 or C8	Short-circuit	198/264 V 60 Hz	1 h	1)	-	-	-	Output of U1 is short-circuited, +PC_VCC# is not generated. U1 is self-protected against short-circuit of its output. Equipment does not work. No hazard, no high temperatures.
Resistor R6	Short-circuit	198/264 V 60 Hz	1 h	1)	-	-	-	Internal voltage +PC_VCC# is about 1.2 Vdc instead of 12 Vdc, equipment does not work. No hazard, no high temperatures.
Resistor R8 or R9	Short-circuit	198/264 V 60 Hz	1 h	1)	-	-	-	Internal voltage +PC_VCC# is about 24 Vdc instead of 12 Vdc, several components are damaged, equipment does not work. No hazard, no high temperatures.

IEC 62368-1								
Clause	Requirement + Test				Result - Remark			Verdict
IC U2 (Pin 7-8)	Short-circuit	198/264 V 60 Hz	1 h	1)	-	-	-	Internal voltage +12V# is linked to output of AC/DC switching power supply, internal +12V# is 24 Vdc instead of 12 Vdc, several components are damaged. Equipment does not work. No hazard, no high temperatures.
Diode D4	Short-circuit	198/264 V 60 Hz	1 h	1)	-	-	-	Output of U2 is short-circuited, +12V# is not generated. U2 is self-protected against short-circuit of its output. Equipment does not work. No hazard, no high temperatures.
Electrolytic capacitor C15 or C16	Short-circuit	198/264 V 60 Hz	1 h	1)	-	-	-	Output of U2 is short-circuited, +12V# is not generated. U2 is self-protected against short-circuit of its output. Equipment does not work. No hazard, no high temperatures.
Resistor R12	Short-circuit	198/264 V 60 Hz	1 h	1)	-	-	-	Internal voltage +12V# is about 1.2 Vdc instead of 12 Vdc, equipment does not work. No hazard, no high temperatures.

IEC 62368-1								
Clause	Requirement + Test				Result - Remark			Verdict
Resistor R14 or R15	Short-circuit	198/264 V 60 Hz	1 h	1)	-	-	-	Internal voltage +12V# is about 24 Vdc instead of 12 Vdc, several components are damaged, equipment does not work. No hazard, no high temperatures.
IC U3 (Pin 7-8)	Short-circuit	198/264 V 60 Hz	1 h	1)	-	-	-	Internal voltage +5V# is linked to output of AC/DC switching power supply, internal +5V# is 24 Vdc instead of 5 Vdc, several components are damaged. Equipment does not work. No hazard, no high temperatures.
Diode D5	Short-circuit	198/264 V 60 Hz	1 h	1)	-	-	-	Output of U3 is short-circuited, +5V# is not generated. U3 is self-protected against short-circuit of its output. Equipment does not work. No hazard, no high temperatures.
Electrolytic capacitor C23 or C24	Short-circuit	198/264 V 60 Hz	1 h	1)	-	-	-	Output of U3 is short-circuited, +5V# is not generated. U3 is self-protected against short-circuit of its output. Equipment does not work. No hazard, no high temperatures.

IEC 62368-1								
Clause	Requirement + Test				Result - Remark			Verdict
Resistor R19	Short-circuit	198/264 V 60 Hz	1 h	1)	-	-	-	Internal voltage +5V# is about 1.2 Vdc instead of 5 Vdc, equipment does not work. No hazard, no high temperatures.
Resistor R21	Short-circuit	198/264 V 60 Hz	1 h	1)	-	-	-	Internal voltage +5V# is about 24 Vdc instead of 5 Vdc, several components are damaged, equipment does not work. No hazard, no high temperatures.
IC U4 (Pin 7-8)	Short-circuit	198/264 V 60 Hz	1 h	1)	-	-	-	Internal voltage +3.3V# is linked to output of AC/DC switching power supply, internal +3.3V# is 24 Vdc instead of 3.3 Vdc, several components are damaged. Equipment does not work. No hazard, no high temperatures.
Diode D6	Short-circuit	198/264 V 60 Hz	1 h	1)	-	-	-	Output of U4 is short-circuited, +3.3V# is not generated. U4 is self-protected against short-circuit of its output. Equipment does not work. No hazard, no high temperatures.

IEC 62368-1								
Clause	Requirement + Test				Result - Remark			Verdict
Electrolytic capacitor C31 or C32	Short-circuit	198/264 V 60 Hz	1 h	1)	-	-	-	Output of U4 is short-circuited, +3.3V# is not generated. U4 is self-protected against short-circuit of its output. Equipment does not work. No hazard, no high temperatures.
Resistor R31	Short-circuit	198/264 V 60 Hz	1 h	1)	-	-	-	Internal voltage +3.3V# is about 1.2 Vdc instead of 3.3 Vdc, equipment does not work. No hazard, no high temperatures.
Resistor R33	Short-circuit	198/264 V 60 Hz	1 h	1)	-	-	-	Internal voltage +3.3V# is about 24 Vdc instead of 3.3 Vdc, several components are damaged, equipment does not work. No hazard, no high temperatures.
Electronic board 1617								
U10 (Vin-Vout)	Short-circuit	198/264 V 60 Hz	1 h	1)	-	-	-	Internal voltage +3.3V is linked to internal voltage +12V, internal +3.3V is 12 Vdc instead of 3.3 Vdc, several components are damaged. Equipment does not work. No hazard, no high temperatures.

IEC 62368-1								
Clause	Requirement + Test				Result - Remark			Verdict
Electrolytic capacitor C16	Short-circuit	198/264 V 60 Hz	1 h	1)	-	-	-	Output of U10 is short-circuited, +3.3V is not generated. U10 is self-protected against short-circuit of its output. Equipment does not work. No hazard, no high temperatures.
Electronic board 1814								
U1 (Vin-Vout)	Short-circuit	198/264 V 60 Hz	1 h	1)	-	-	-	Internal voltage +5V is linked to internal voltage +12V, internal +5V is 12 Vdc instead of 5 Vdc, several components are damaged. Equipment does not work. No hazard, no high temperatures.
Electrolytic capacitor C6	Short-circuit	198/264 V 60 Hz	1 h	1)	-	-	-	Output of U1 is short-circuited, +5V is not generated. U1 is self-protected against short-circuit of its output. Equipment does not work. No hazard, no high temperatures.
Supplementary information:								
1) 5 A fuses inside internal appliance inlet with integrated EMI filter, fuse-holder and functional switch. For Fault condition test performed on electronic board inside sound bar refer to Attachment 15 to this test report. For Fault condition tests performed on electronic boards inside fibre-ethernet converter refer to Attachment 17 to this test report.								

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict

Annex M.3	**TABLE: Batteries**									P
The tests of Annex M are applicable only when appropriate battery data is not available										P
Is it possible to install the battery in a reverse polarity position?..... :						No				N/A
	Non-rechargeable batteries			Rechargeable batteries						
	Discharging		Un-intentional charging	Charging		Discharging		Reversed charging		
	Meas. current	Manuf. Specs.		Meas. current	Manuf. Specs.	Meas. current	Manuf. Specs.	Meas. current	Manuf. Specs.	
Max. current during normal condition	< 0.05	0.2 mA	-	-	-	-	-	-	-	
Max. current during fault condition	0.102	-	3.3 mA (limit 10 mA)	-	-	-	-	-	-	
Test results:										Verdict
- Chemical leaks										P
- Explosion of the battery										P
- Emission of flame or expulsion of molten metal										P
- Electric strength tests of equipment after completion of tests										N/A
Supplementary information:										

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict

Annex M.4	**Table: Additional safeguards for equipment containing secondary lithium batteries**	N/A

Battery/Cell No.	Test conditions	Measurements			Observation
		U	I (A)	Temp (C)	
-	Normal	-	-	-	-
-	Abnormal	-	-	-	-
-	Single fault –SC/OC	-	-	-	-
-	Normal	-	-	-	-
-	Abnormal	-	-	-	-
-	Single fault – SC/OC	-	-	-	-

Supplementary Information:

Battery identification	Charging at T_{lowest} (°C)	Observation	Charging at $T_{highest}$ (°C)	Observation
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-

Supplementary Information:

Annex Q.1	**TABLE: Circuits intended for interconnection with building wiring (LPS)**	N/A

Note: Measured UOC (V) with all load circuits disconnected:

Output Circuit	Components	U_{oc} (V)	I_{sc} (A)		S (VA)	
			Meas.	Limit	Meas.	Limit
-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-

Supplementary Information:

SC=Short circuit, OC=Open circuit

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict

T.2, T.3, T.4, T.5	TABLE: Steady force test	P

Part/Location	Material	Thickness (mm)	Force (N)	Test Duration (sec)	Observation
Monitor					
Internal mains supply cable	-	-	10	5	No loosening or detaching
Mains conductors	-	-	10	5	No loosening or detaching
Protective bonding conductors	-	-	10	5	No loosening or detaching
Audio cable	-	-	10	5	No loosening or detaching
LAN cable	-	-	10	5	No loosening or detaching
LVDS cable	-	-	10	5	No loosening or detaching
Low voltage conductors	-	-	10	5	No loosening or detaching
Cooling fans connection conductors	-	-	10	5	No loosening or detaching
Antenna cable	-	-	10	5	No loosening or detaching
Connection conductors of Heating element on front panel	-	-	10	5	No loosening or detaching
Connection cable of magnetic contact	-	-	10	5	No loosening or detaching
Supply conductors of fibre-ethernet converter	-	-	10	5	No loosening or detaching
Metallic enclosure (all sides)	Aluminium	2.0	250	5	No damage or deformation of enclosure
Glass	Tempered glass	7.14	250	5	No damage or deformation of enclosure
Sound bar					
Audio cable	-	-	10	5	No loosening or detaching

IEC 62368-1					
Clause	Requirement + Test		Result - Remark		Verdict

Protective bonding conductors	-	-	10	5	No loosening or detaching
Metallic enclosure (all sides)	Aluminium	2.3	250	5	No damage or deformation of enclosure
Supplementary information:					

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict

T.6, T.9	TABLE: Impact tests				P
Part/Location	Material	Thickness (mm)	Vertical distance (mm)	Observation	
Monitor					
Metallic enclosure (all sides)	Aluminium	2.0	1300	No damage or deformation of enclosure	
Glass	Tempered glass	7.14	714	No damage or deformation of enclosure	
Sound bar					
Metallic enclosure (all sides)	Aluminium	2.0	1300	No damage or deformation of enclosure	
Supplementary information:					

T.7	TABLE: Drop tests				N/A
Part/Location	Material	Thickness (mm)	Drop Height (mm)	Observation	
-	-	-	-	-	
-	-	-	-	-	
-	-	-	-	-	
Supplementary information:					

T.8	TABLE: Stress relief test				P
Part/Location	Material	Thickness (mm)	Oven Temperature (°C)	Duration (h)	Observation
Plastic cover of WiFi/LTE antenna	Polycarbonate	3.0	70 °C	7	No deformation of cover.
Plastic cover of PMR antenna	ASA	3.0	70 °C	7	No deformation of cover.
-	-	-	-	-	-
Supplementary information:					

ATTACHMENT 1: MEASUREMENT UNCERTAINTY

Hereafter Nemko's measurement uncertainties are reported:

Test	Range	Measurement Uncertainty	Note
Environmental testing	Temperature -70 °C ÷ 180 °C – Chamber center	1.4 °C	(1)
	Temperature -70 °C ÷ 180 °C – Overall chamber	1.8 °C	(1)
	Relative Humidity 10 % ÷ 98 % – Chamber center	3 %	(1)
	Relative Humidity 10 % ÷ 98 % – Overall chamber	4 %	(1)
IP protection	Water flow 0.5 l/min ÷ 100 l/min	5 %	(1)
	Air flow	5 %	(1)
	Force 50 N, 30 N, 3 N, 1 N	6 %	(1)
	Dimensions 50 mm, 12.5 mm, 2.5 mm, 1 mm	0.05 mm	(1)
Construction verifications	AC/DC Voltage 10 mV ÷ 1000 V up to 5 kHz	1.5·%	(1)
	AC/DC Voltage 10 mV ÷ 1000 V 5÷100 kHz	2.5·%	(1)
	AC/DC Current 0.1 mA ÷ 5 A up to 1 kHz	1.5·%	(1)
	AC/DC Current 5 A ÷ 400 A up to 1 kHz	2.5·%	(1)
	Resistance 100 mΩ ÷ 10 MΩ	2.0·%	(1)
	Active/Apparent Power 200 mW ÷ 1 W	20 mW	(1)
	Active/Apparent Power 1 W ÷ 6 kW	3.0 %	(1)
	Power factor	0.05	(1)
	Frequency	0.2 %	(1)
	Dimensions 0 ÷ 200 mm	0.05 mm	(1)
	Dimensions 0.2 ÷ 200 m	0.5 %	(1)
	Angle and Inclination 0 ÷ 360 °	0.3 °	(1)
	Force 0.2 ÷ 2.5 kN	3 %	(1)
	Torque 0.1 ÷ 200 Nm	5 %	(1)
	Mechanical energy 0.2 ÷ 50 J	10 %	(1)
	Weight 1 g ÷ 2 kg	1.0 % or 0.1 g	(1)
	Weight 2 kg ÷ 100 kg	2 %	(1)
Heating	Temperature 20 °C ÷ 400 °C	4.5 °C	(1)
Pressure measurement	Pressure -0.5 bar ÷ 700 bar	1.0·%	(1)
Temperature measurement	Temperature -40 °C ÷ 300 °C	2.0 °C	(1)
Protection against access to live parts	Dimensions 1 ÷ 1000 mm	0.08 mm or 0.3 %	(1)
	Force 0.2 ÷ 1000 N	3%	(1)
Power input and current	Active/Apparent Power 0.2 W ÷ 6 kW	20 mW or 3 %	(1)
	AC/DC Current 1 mA ÷ 5 A up to 1 kHz	1.5 %	(1)
Leakage and touch current	AC Current 0.01 mA ÷ 200 mA up to 5 kHz	3.0 %	(1)
	AC Current 0.01 mA ÷ 200 mA 5 kHz to 100 kHz	10.0 %	(1)
	AC Current 0.01 mA ÷ 200 mA 100 kHz to 1 MHz	20.0 %	(1)
Earth impedance	Impedance 1 mΩ ÷ 10 kΩ	3 mΩ or 4 %	(1)
Continuity resistance	AC 10 mΩ ÷ 2 Ω, 5 A ÷ 32 A	3 mΩ or 5 %	(1)
	AC 2 Ω ÷ 100 Ω, 100 mA or 200 mA	5 %	(1)
	DC 1 mΩ ÷ 1 kΩ, 0.01 A ÷ 10 A	5 %	(1)
Insulation resistance	10 kΩ ÷ 200 GΩ, 10 V ÷ 1000 V	3.0·%	(1)
	200 GΩ ÷ 1000 GΩ, 500 V ÷ 1000 V	5.0·%	(1)
Dielectric strength	AC Voltage 0.1 kV ÷ 5 kV (50 Hz or 60 Hz)	3.0 %	(1)
	DC Voltage 0.1 kV ÷ 6 kV	3.0 %	(1)
	AC/DC Current 0.1 mA ÷ 200 mA up to 1 kHz	5 %	(1)
Transients	Pulse voltage	10·%	(1)
EMF	-	25 %	(1)
Plug discharge	Voltage	5 %	(1)
Working voltage	Voltage	5 %	(1)
	Frequency	5 %	(1)
Tracking test	Voltage, Current	1.5 %	(1)
	Drops - count	7	(1)

NOTES:
(1) The reported expanded uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor k = 2, which for a normal distribution corresponds to a coverage probability of approximately 95 %

Test	Range	Measurement Uncertainty	Note
Moisture resistance	See Environmental testing and IP protection		(1)
Overload protection	See Construction verifications and Heating		(1)
Abnormal operation	See Construction verifications and Heating		(1)
Mechanical strength Impact energy	Force 0.2 ÷ 2.5 kN Length 1 ÷ 1000 mm	See Construction verifications	(1)
Resistance to heat and fire (Glow wire test)	Glow wire temperature	3 °C	(1)
Resistance to heat and fire(Ball pressure test)	Ball pressure dimension	0.1 mm	(1)
Time Measurements	10 ms ÷ 8 h	1 %	(1)
Velocity Measurements	0 ÷ 5 m/s	5 %	(1)
Salt mist	See 60068-2-11	(2)	(1)
Vibration	5 Hz ÷ 2 kHz	5.0 %	(1)
Sound power/pressure level	31 Hz ÷ 4 kHz	3.0 dB	(1)
	4 kHz ÷ 10 kHz	6.0 dB	(1)
	A-weighted, C-weighted	2.0 dB	(1)

NOTES:
(1) The reported expanded uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor k = 2, which for a normal distribution corresponds to a coverage probability of approximately 95 %
(2) The instruments used for this test is according to the tolerances requested by the standard 60068-2-11

Test	Range	Measurement Uncertainty	Note
Radiance Blue light, Retinal thermal, Retinal thermal weak visual stimulus	0 ÷ 0.1 MW/(sr·m^2) 300 ÷ 1400 nm	7.0 %	(1) (4)
	0.1 ÷ 100 MW/(sr·m^2) 300 ÷ 1400 nm	8.0 %	
Luminance	0 ÷ 0.1 Mcd/m^2	7.0 %	(1)
	0.1 ÷ 100 Mcd/m^2	8.0 %	
Irradiance Actinic UV, Near UV, Blue light small source, IR radiation, eye	0 ÷ 0.1 MW/(m^2) 200 ÷ 300 nm	9.2 %	(1) (5)
	0.1 ÷ 100 MW/(m^2) 200 ÷ 300 nm	10.0 %	
	0 ÷ 0.1 MW/(m^2) 300 ÷ 3000 nm	6.4 %	
	0.1 ÷ 100 MW/(m^2) 300 ÷ 3000 nm	7.2 %	
Illuminance	0 ÷ 20 klx	4.0 %	(1)
Spectral Radiance	0 ÷ 0.1 MW/(sr·m^2·nm) 300 ÷ 1400 nm	6.2 %	(1)
	0.1 ÷ 1 MW/(sr·m^2·nm) 300 ÷ 1400 nm	7.0 %	
Spectral Irradiance	0 ÷ 0.1 MW/(m^2·nm) 200 ÷ 300 nm	8.6 %	(1)
	0.1 ÷ 1 MW/(m^2·nm) 200 ÷ 300 nm	9.2 %	
	0-0.1 MW/(m^2·nm) 300 ÷ 3000nm	5.4 %	
	0.1 ÷ 1 MW/(m^2·nm) 300 ÷ 3000 nm	6.4 %	
Radiant power Laser radiation Output power	350 ÷ 400 nm 950 ÷ 3000 nm 30 uW ÷ 30 W	9.0 %	(1), (2), (3)
	400 ÷ 950 nm 50 nW ÷ 3 W	4.6 %	(1), (2), (3)
Radiant energy Laser radiation	350 ÷ 400 nm 950 ÷ 3000 nm 20 uJ ÷ 2 J	9.0 %	(1), (2)
	400 ÷ 950 nm 20 uJ ÷ 2 J	4.6 %	(1), (2)
Wavelength	200 ÷ 3000 nm	4.5 %	(1)
Length in optical measurement	0 ÷ 20 mm	0.5 mm	(1)
	20 ÷ 200 mm	2 mm	
	0.2 ÷ 200 m	0.5 %	

NOTES:
(1) The reported expanded uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor k = 2, which for a normal distribution corresponds to a coverage probability of approximately 95 %
(2) In the standard 60825-1 laser radiation can indicate radiant power or radiant energy
(3) In the standard 60825-1 the radiant power can be called also output power
(4) The uncertainty value expressed in W/(m^2) is the maximum value between the value measured and the limit stated in the standard (see IEC/EN62471) multiplied to the measurement uncertainty stated in the table
(5) The uncertainty value expressed in W/(sr·m^2) is the maximum value between the value measured and the limit stated in the standard (see IEC/EN62471) multiplied to the measurement uncertainty stated in the table

Test	Range	Measurement Uncertainty	Notes
Radiated Disturbance 10m Chamber	Antenna distance 3 m, 10 m 0.009 ÷ 200 MHz	5.0 dB	(1)
	Antenna distance 1 m, 3 m, 10 m 200 ÷ 1000 MHz	5.2 dB	(1)
	Antenna distance 1 m, 3 m, 10 m 1 ÷ 6 GHz	5.2 dB	(1)
	Antenna distance 1 m, 3 m 6 ÷ 18 GHz	5.5 dB	(1)
	Antenna distance 1 m, 3 m 18 ÷ 40 GHz	7.2 dB	(1)
Radiated Disturbance with large loop antenna system (LLAS)	0.009 ÷ 30 MHz	3.3 dB	(1)
Conducted Disturbance	0.02 ÷ 150 kHz with AMN	3.8 dB	(1)
	150 kHz ÷ 30 MHz with AMN	3.4 dB	(1)
	150 kHz ÷ 30 MHz with AAN	4.6 dB	(1)
	9 kHz ÷ 30 MHz with voltage probe	2.9 dB	(1)
	150 kHz ÷ 30 MHz with current probe	2.9 dB	(1)
Clicks	9 ÷ 150 kHz	3.8 dB	(1)
	150 kHz ÷ 30 MHz	3.4 dB	(1)
Disturbance Power	30 MHz ÷300 MHz	4.5 dB	(1)
Frequency	10 Hz ÷ 1 kHz	0.2 %	(1)
	1 kHz ÷ 40 GHz	10^{-6}	(1)
Harmonic Current Emission	50 Hz ÷ 2 kHz	3 %	(1)
Fluctuation and Flikers	Fluctuation (d%)	0.05 %	(1)
	Flikers (Pst)	5 %	(1)
Radiated Immunity Anechoic Chambers	20 MHz ÷ 6 GHz	3.4 dB	(1) (3)
Radiated Immunity TEM Cell	0.01 ÷ 200 MHz	3.0 dB	(1) (3)
Bulk Current	1 ÷ 200 MHz	3.0 dB	(1)
Immunity to conducted disturbances	9 kHz ÷ 230 MHz	3.0 dB	(1)
ESD Immunity	Voltage, Current, Rise time, Duration	(2)	(1)
Burst Immunity	Voltage, frequency, burst period and duration, rise time and pulse width	(2)	(1)
Surge Immunity	Voltage, Current, Rise time, Duration	(2)	(1)
DIPS, Interruption and Voltage duration Immunity	Amplitude	5 %	(1)
	Duration	5 %	
Impulse Magnetic Field Immunity	Peak Current	10 %	(1)
	Rise time, Duration	20 %	(3)
Power Frequency Magnetic Field Immunity	16.7 Hz, 50 Hz, 60 Hz	2.0 dB	(1) (3)
Damped Oscillatory Wave Immunity, Ring Wave Immunity	Voltage, front time, frequency 100 kHz, 1 MHz	(2)	(1)
Damped Magnetic Field	Amplitude: 100 kHz, 1 MHz	3 dB	(1)
	Frequency: 100 kHz, 1 MHz	10 %	
Low Frequency Immunity	15 Hz ÷ 150 kHz	2.2 dB	(1)
Automotive transients Immunity	Voltage, rise time, duration time Impulses 1, 2a, 2b, 3a, 3b and 4	(2)	(1)
Automotive transients Emission	Amplitude, Time	10 %	(1)
EMF for Lighting Equipment	-	25 %	(1)
Electromagnetic fields (EMF)	Magnetic, Electric and Electromagnetic fields: 0 Hz ÷ 40 GHz	25 %	(1)
Electrical quantities (voltage, current, resistance)	AC/DC Voltage 10 mV ÷ 1000 V 0÷100 kHz AC/DC Current 0.1 mA ÷ 400 A 0÷1 kHz Resistance 100 mΩ ÷ 10 MΩ	2.5 %	(1)

NOTES:
(1) The reported expanded uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor k = 2, which for a normal distribution corresponds to a coverage probability of approximately 95 %
(2) The instruments used for this immunity test is according to the tolerances requested by the applicable standard
(3) The reported expanded uncertainty of measurement is related to the stimulus quantity

ATTACHMENT 2: PHOTOS

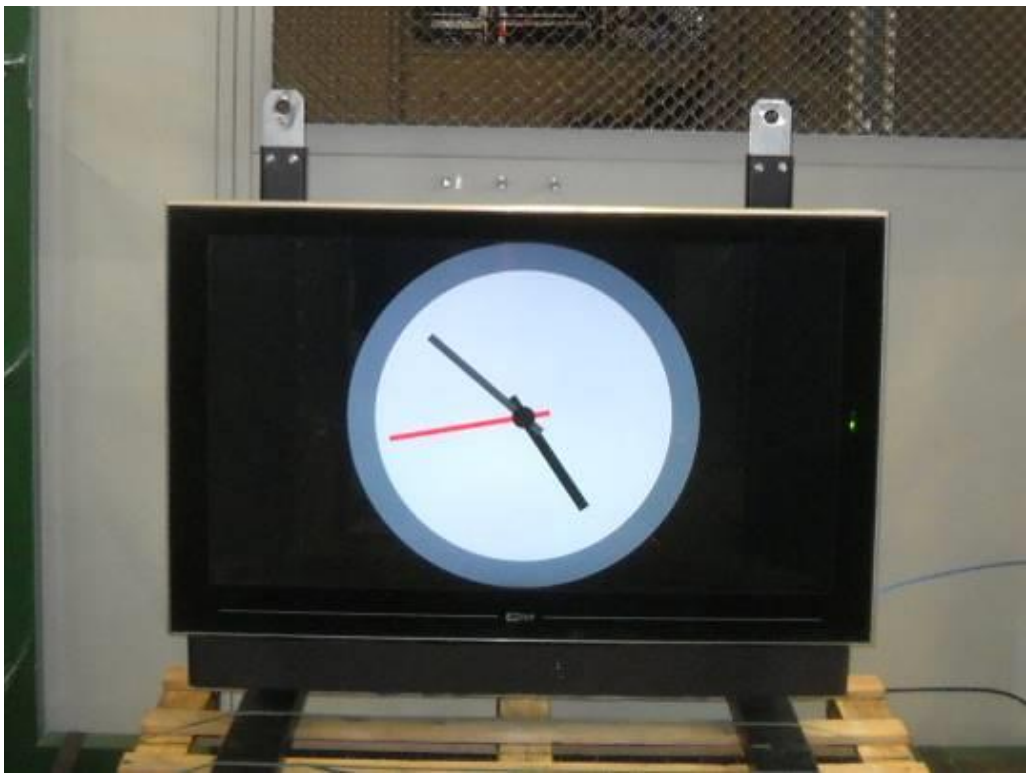

Fig. 1. Front view of equipment with Sound bar

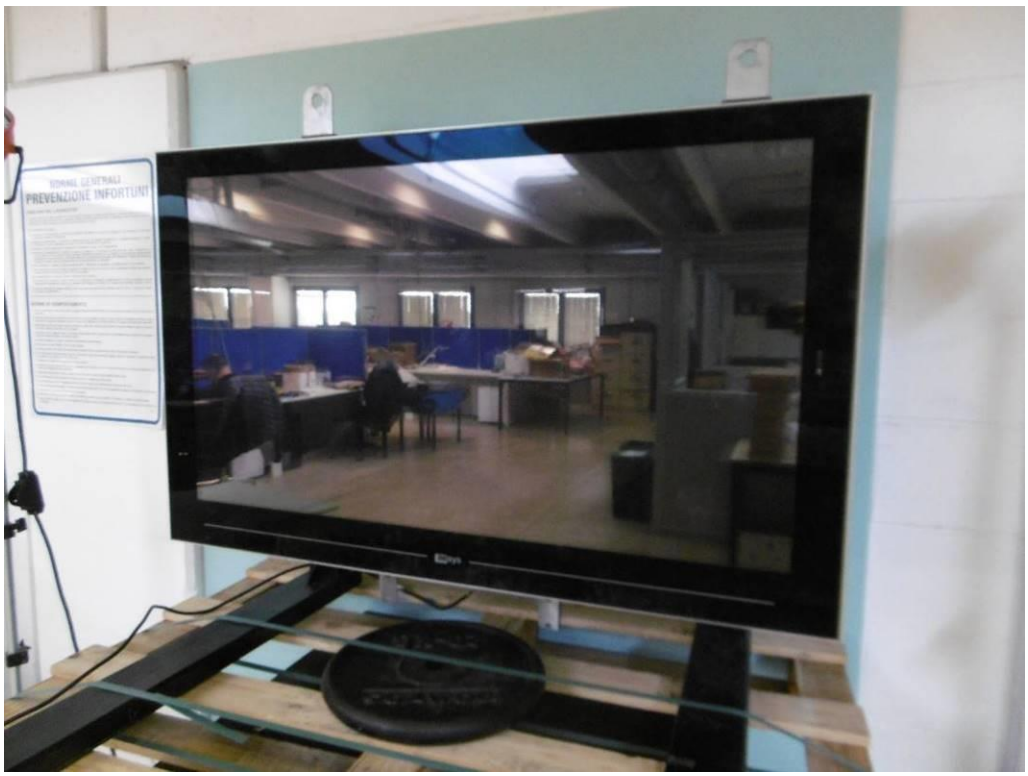

Fig. 2. Front view of equipment without Sound bar

Fig. 3. Rear view of equipment with Sound bar

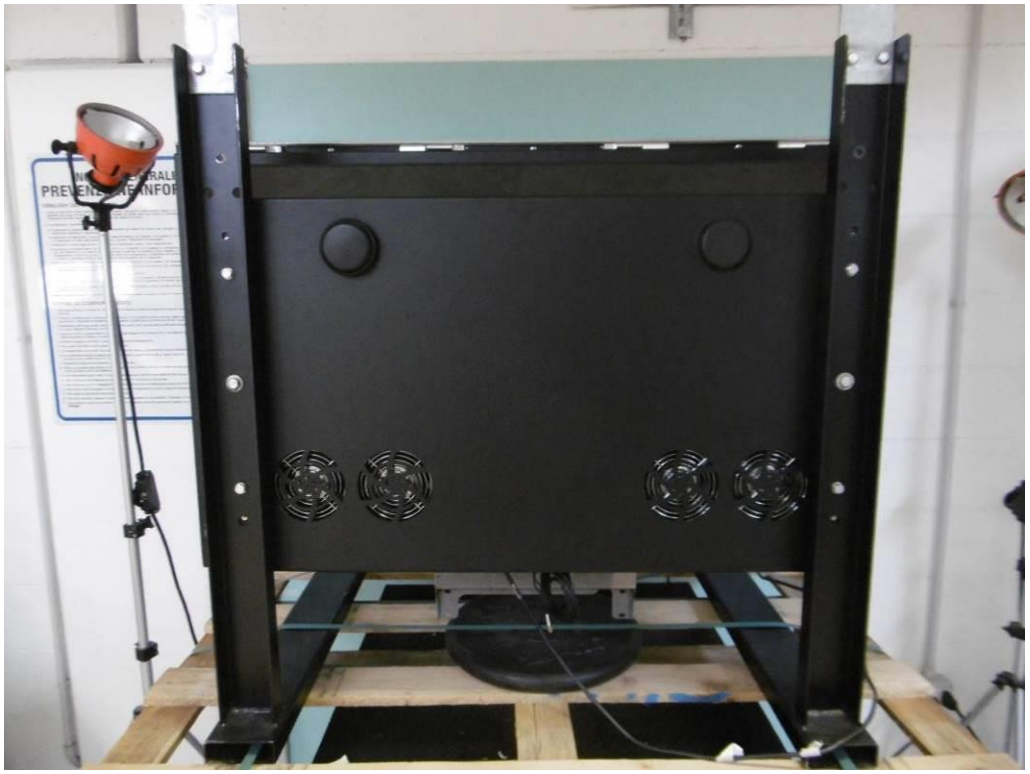

Fig. 4. Rear view of equipment without Sound bar

Fig. 5. Rear view of equipment, detail of connectors

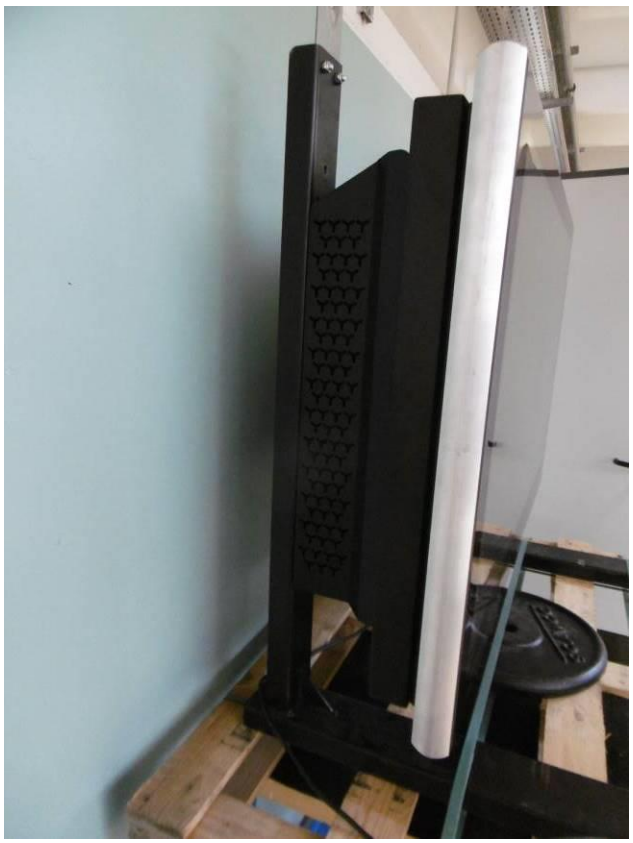

Fig. 6. Side view of equipment

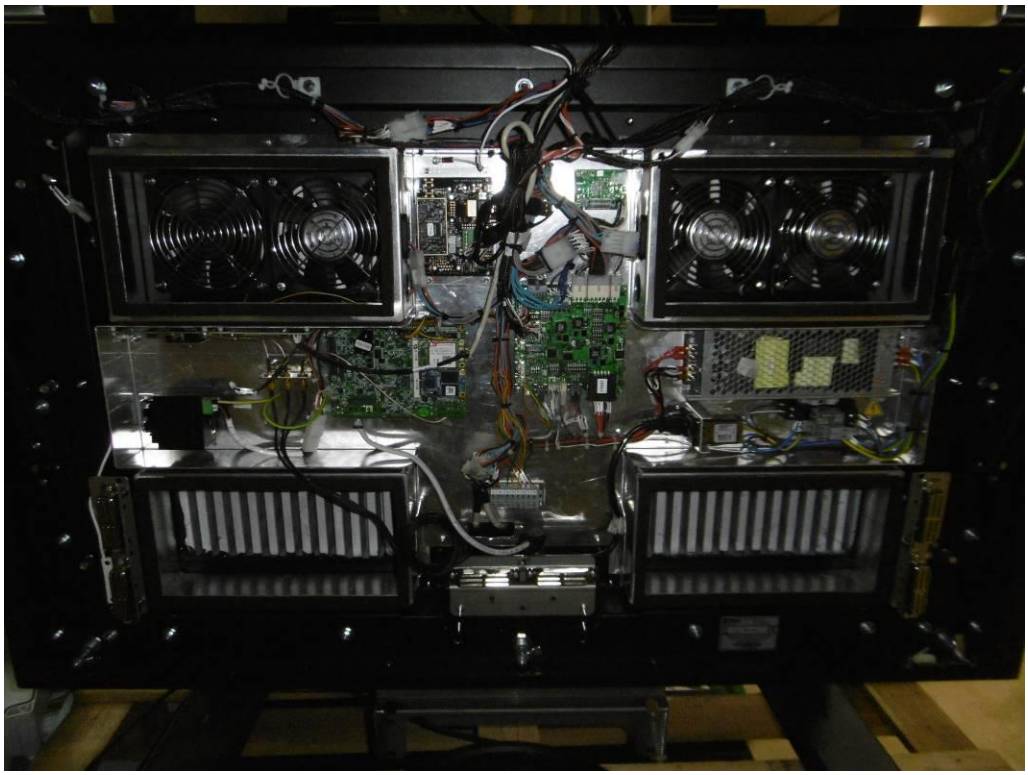

Fig. 7. Internal view of equipment, rear panel

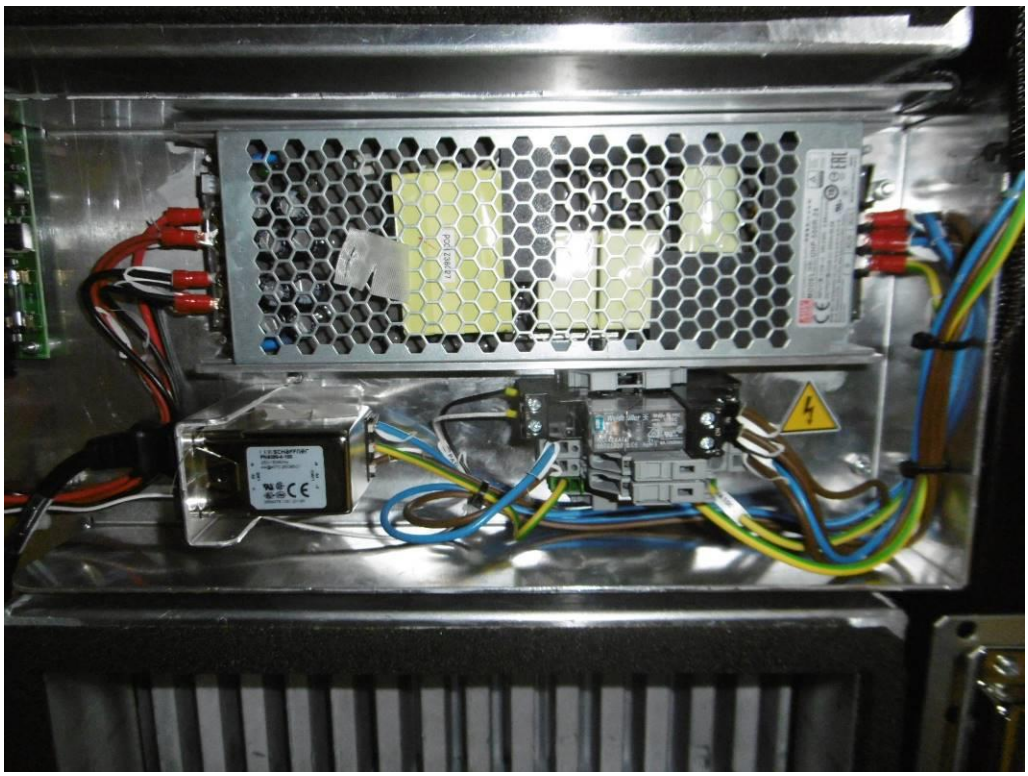

Fig. 8. Internal view of equipment, detail of Internal appliance inlet with integrated EMI filter, fuse-holder and functional switch, relay with its socket, terminal block with fuse holder and AC/DC switching power supply

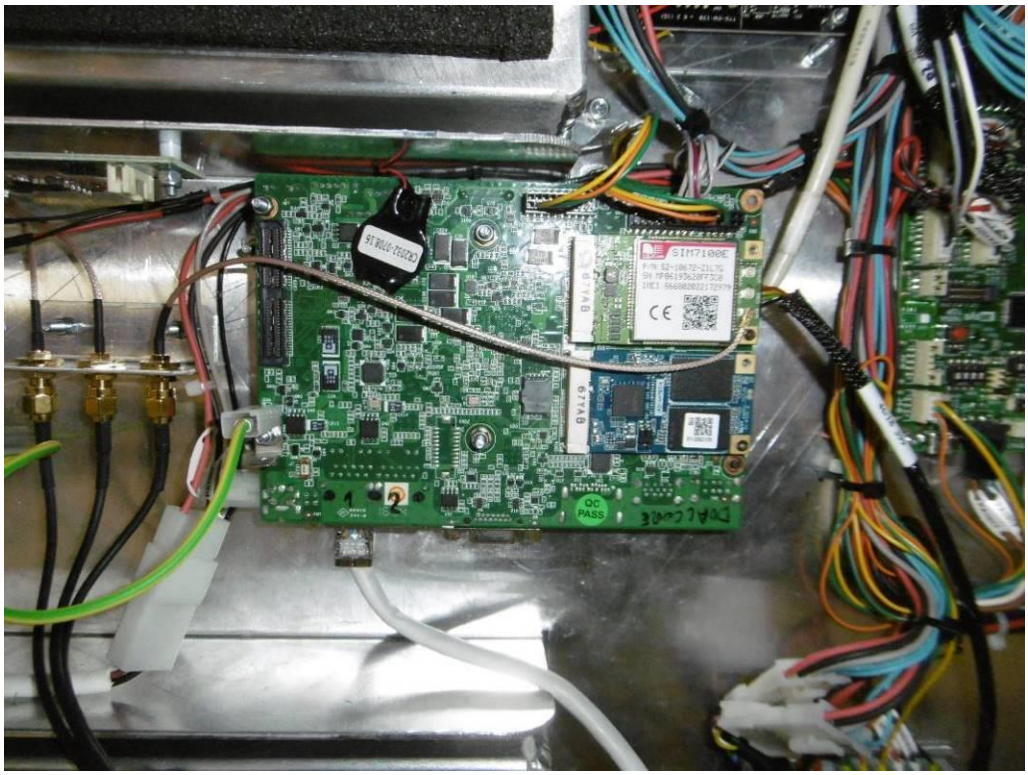

Fig. 9. Internal view of equipment, detail of PC board

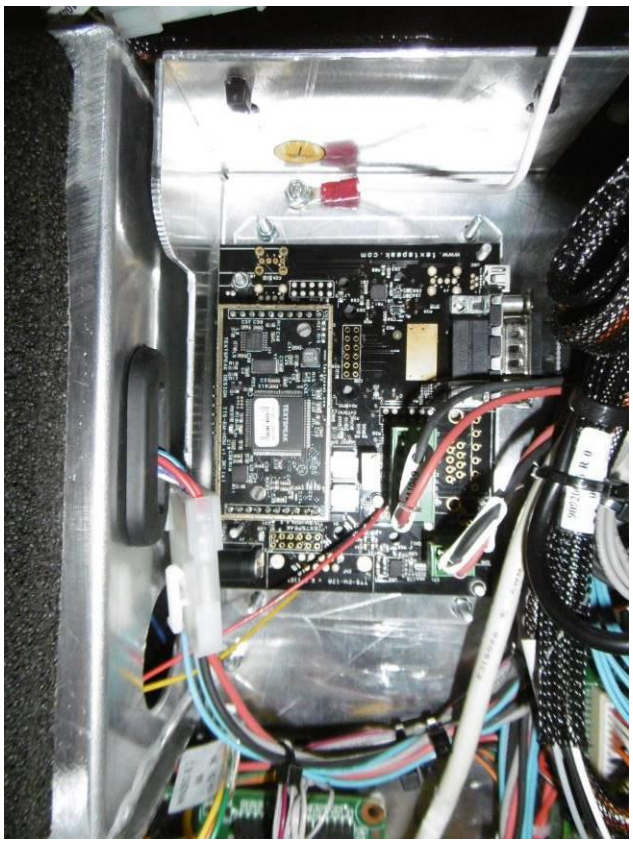

Fig. 10. Internal view of equipment, detail of Text-to-speech board and Text-to-speech board expansion board

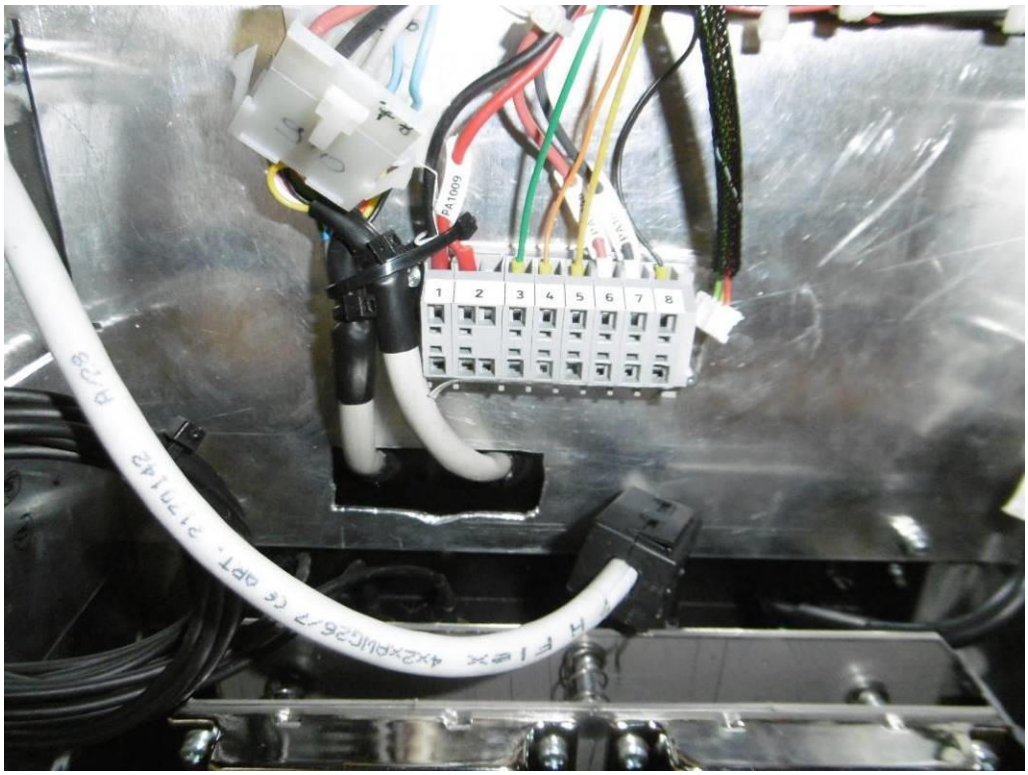

Fig. 11. Internal view of equipment, detail of terminal block for audio cable

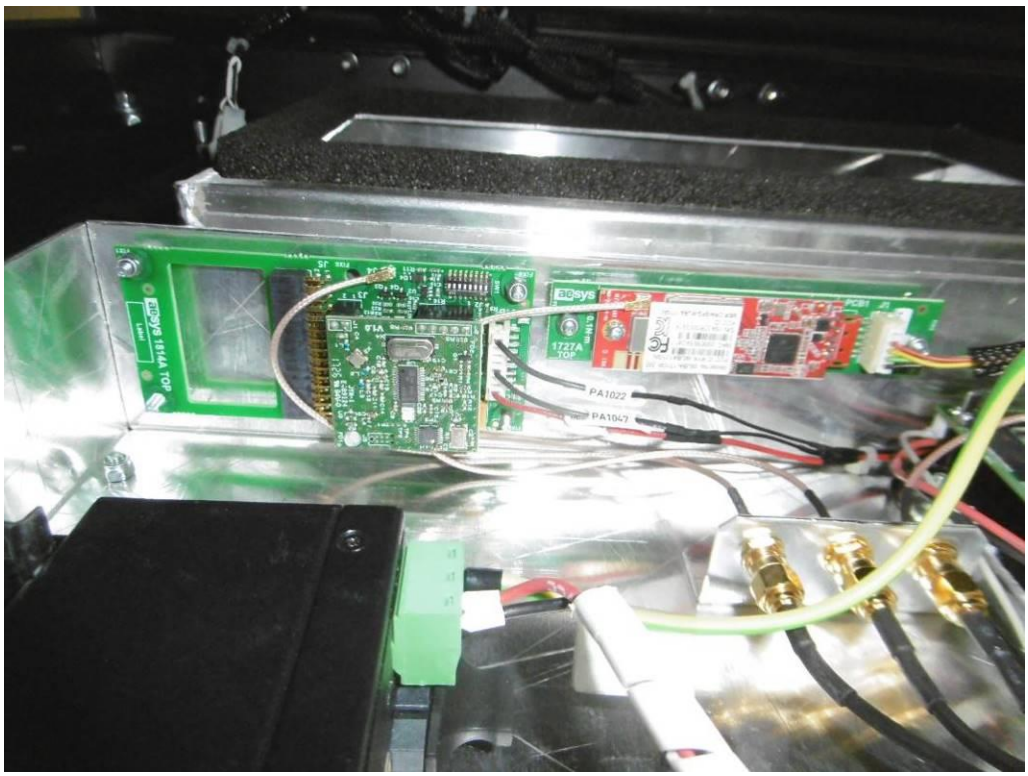

Fig. 12. Internal view of equipment, detail of position of electronic boards 1814 and 1727 and Fibre to Ethernet converter

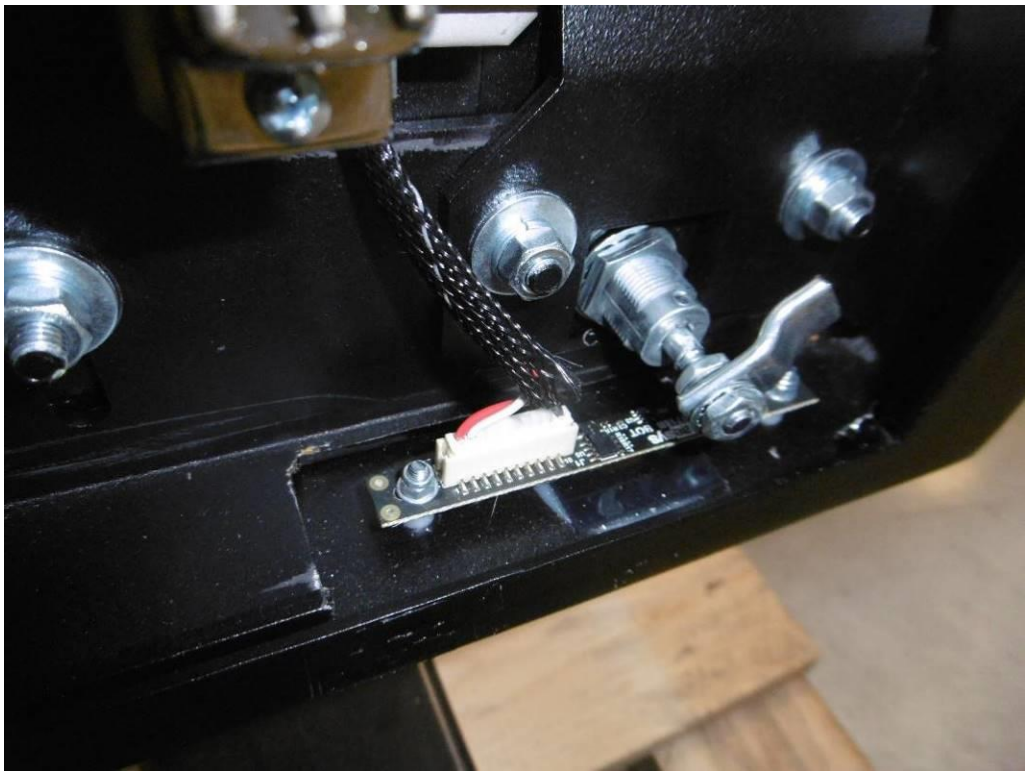

Fig. 13. Internal view of equipment, detail of position of electronic board 1718

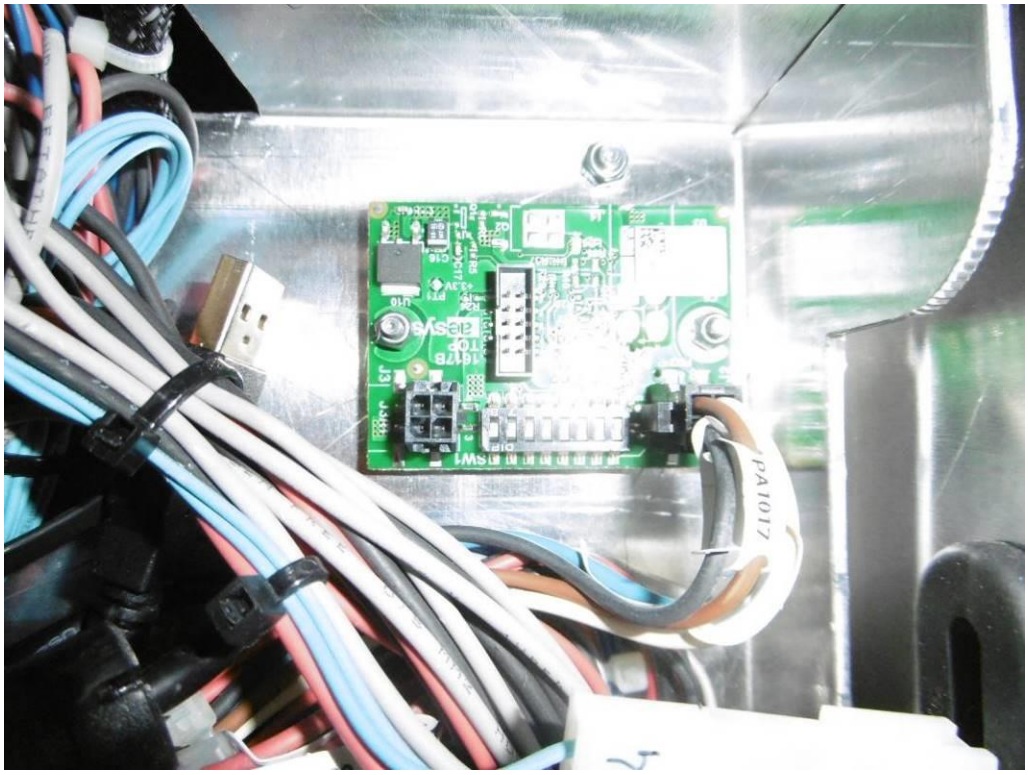

Fig. 14. Internal view of equipment, detail of position of electronic board 1617

Fig. 15. Internal view of equipment, front panel

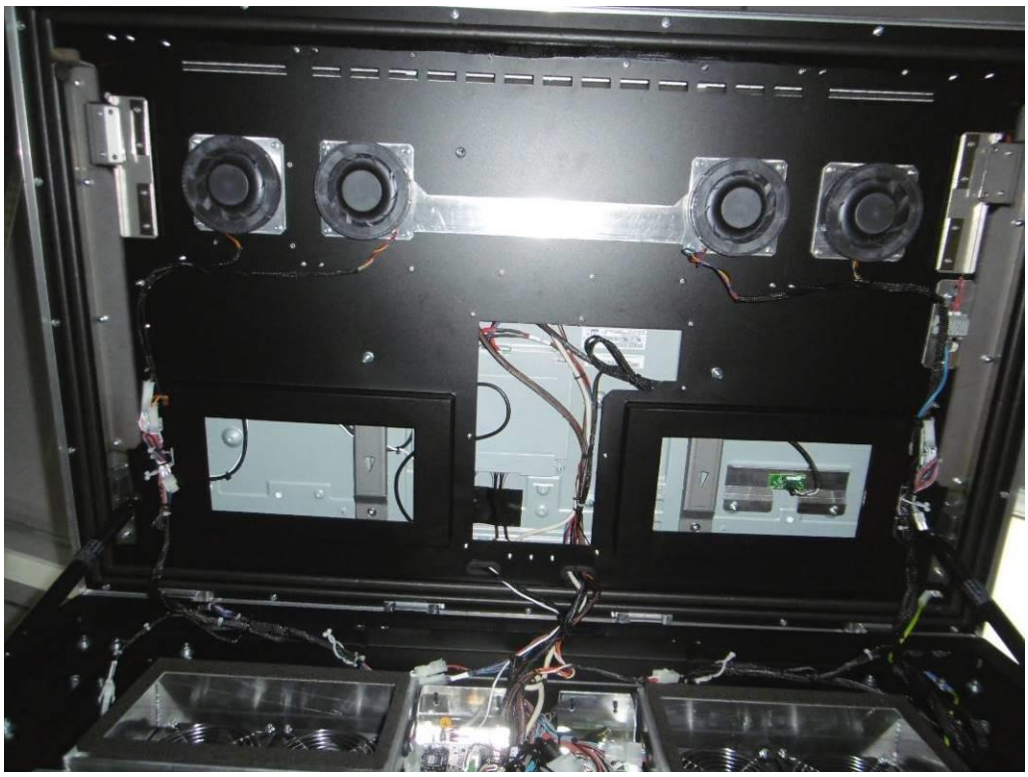

Fig. 16. Internal view of equipment, detail of front panel removing internal protection cover

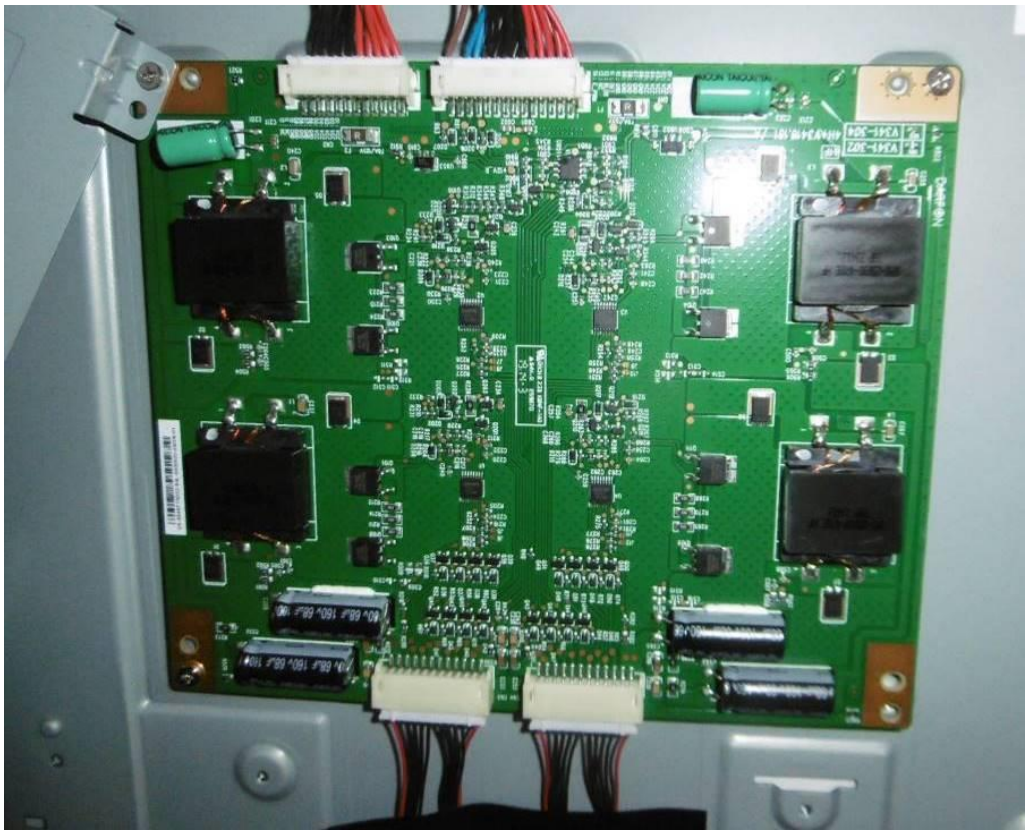

Fig. 17. Internal view of equipment, detail of driver board of TFT display

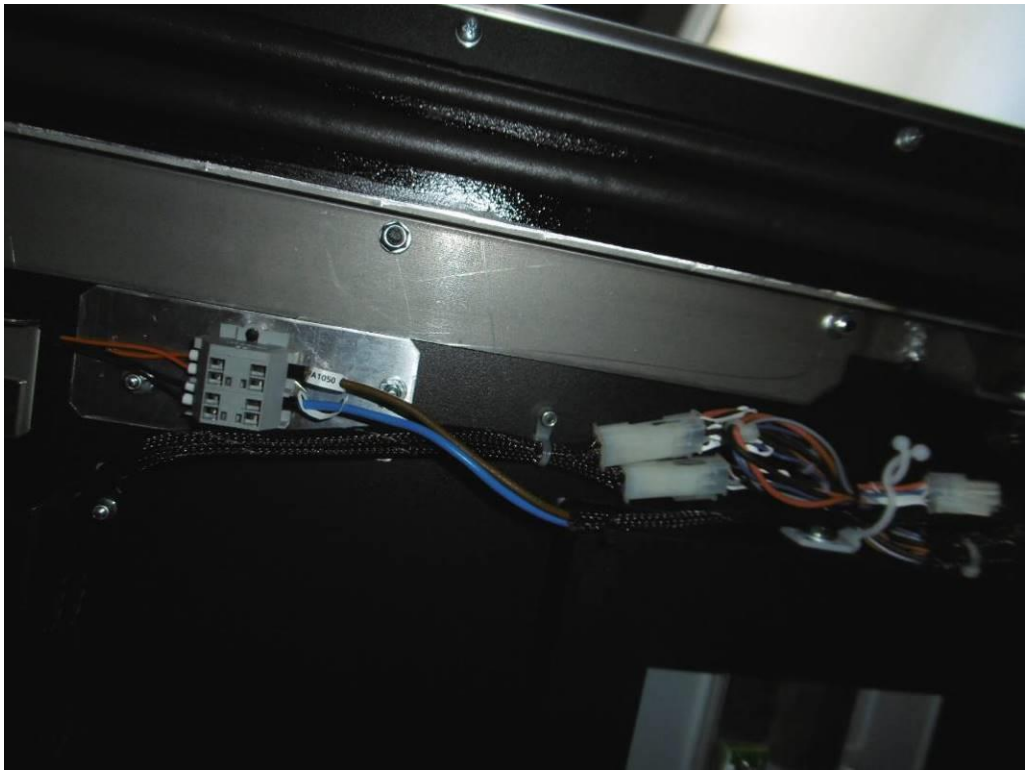

Fig. 18. Fig. 18. Internal view of equipment, detail of terminal supplying a heating element on front panel

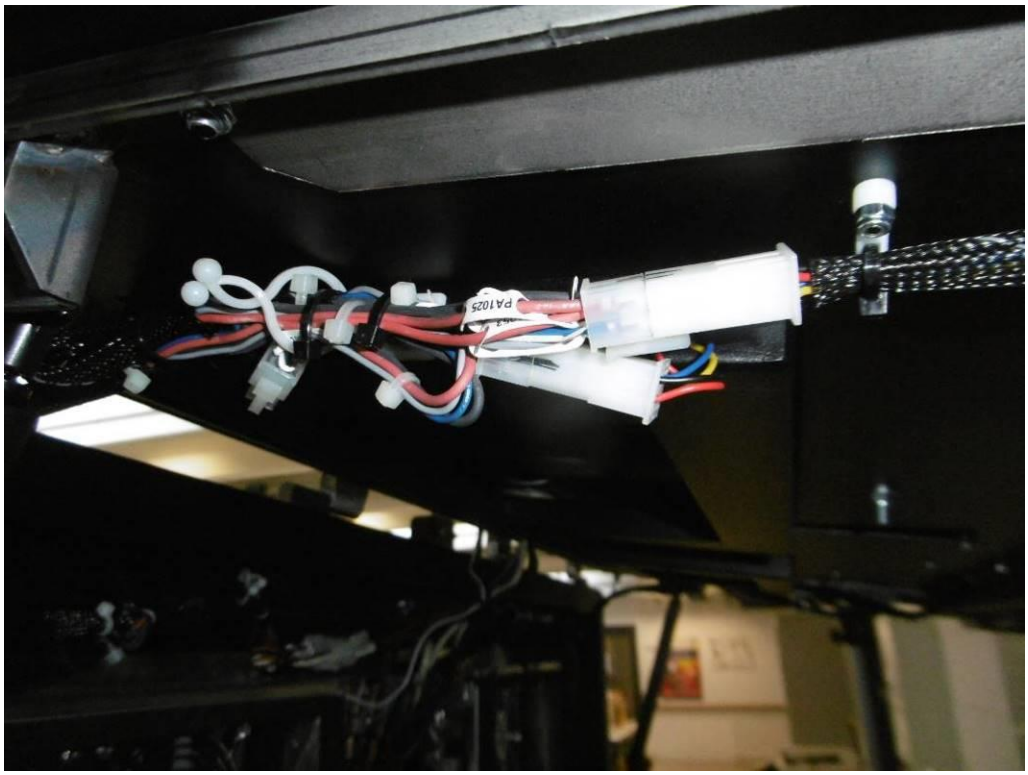

Fig. 19. Internal view of equipment, detail of low voltage connectors providing supply to cooling fan on front panel

Fig. 20. Internal view of equipment, detail of position of electronic board 1043A

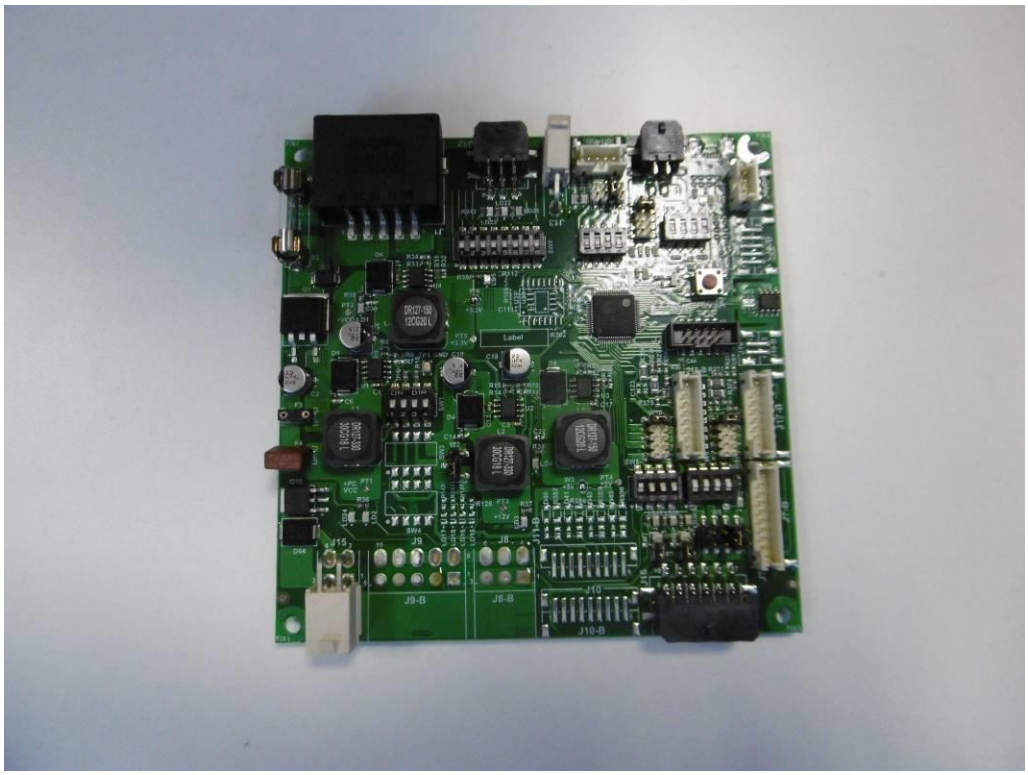

Fig. 21. Top view of electronic board 1609

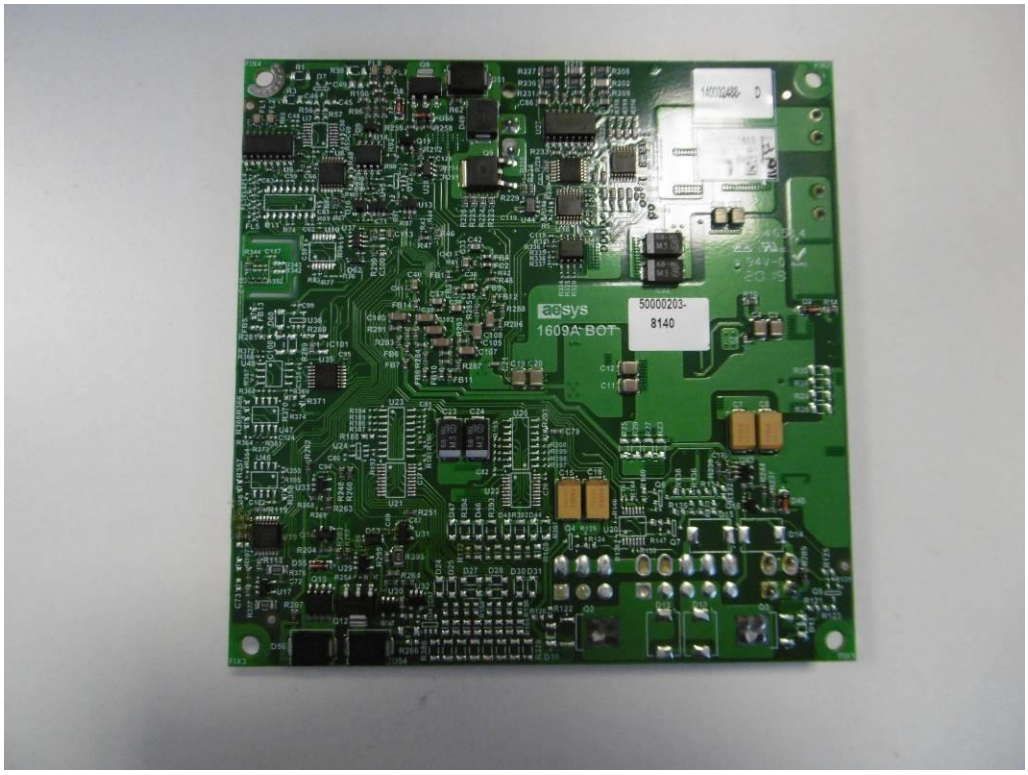

Fig. 22. Bottom view of electronic board 1609

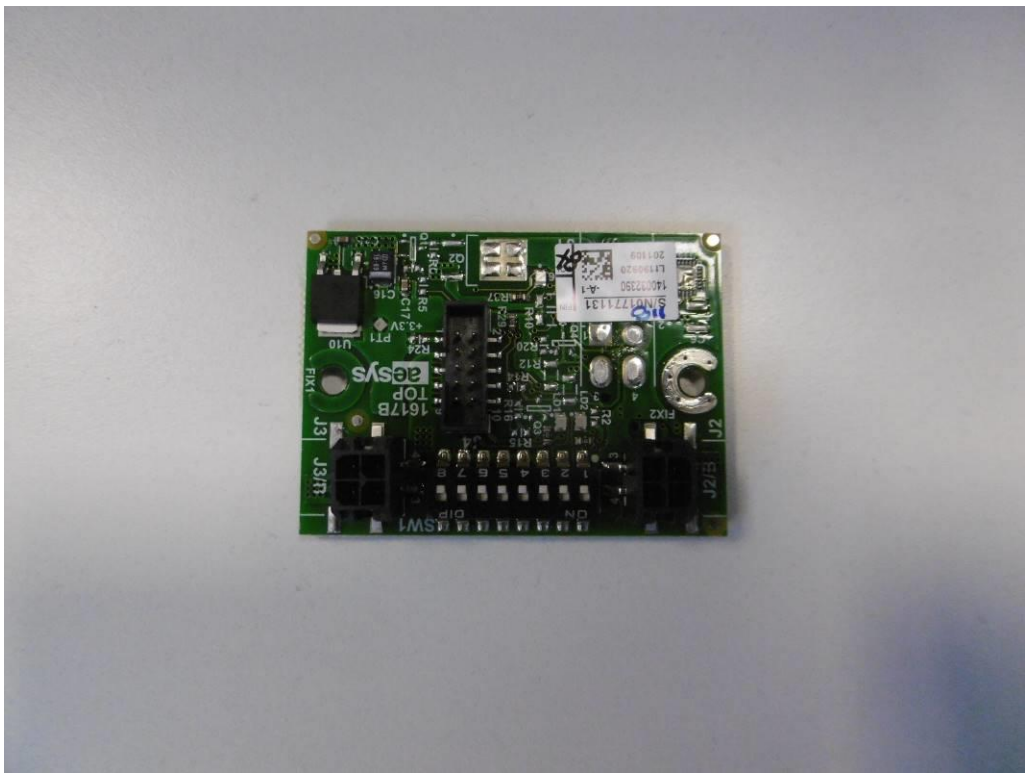

Fig. 23. Top view of electronic board 1617

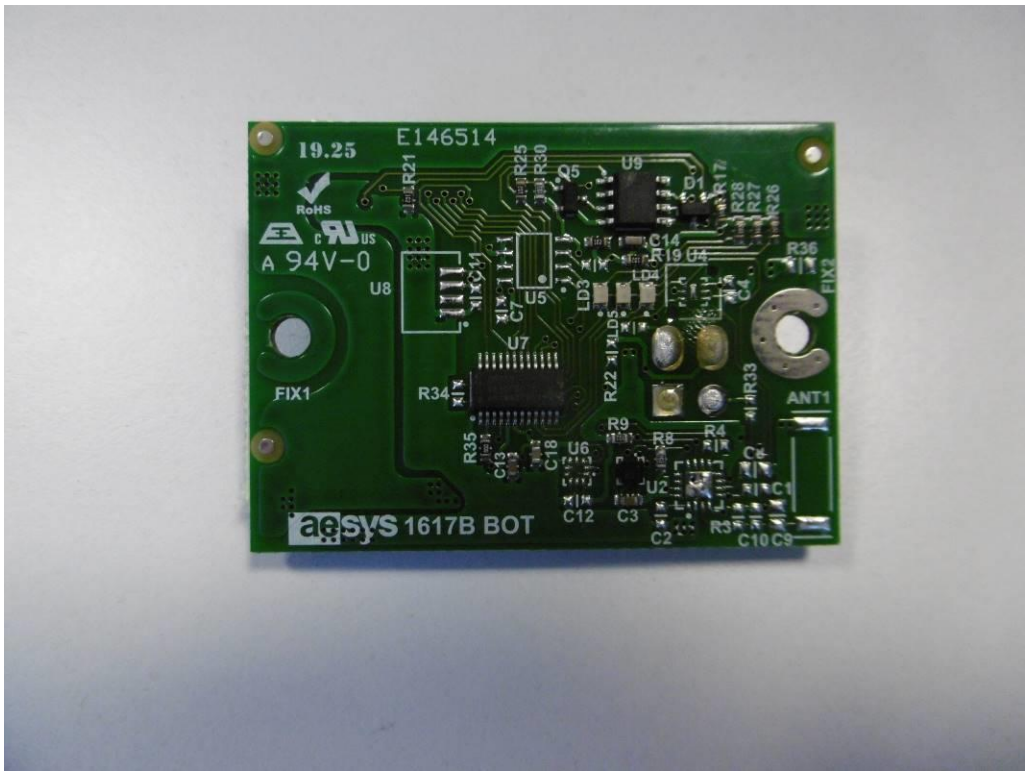

Fig. 24. Bottom view of electronic board 1617

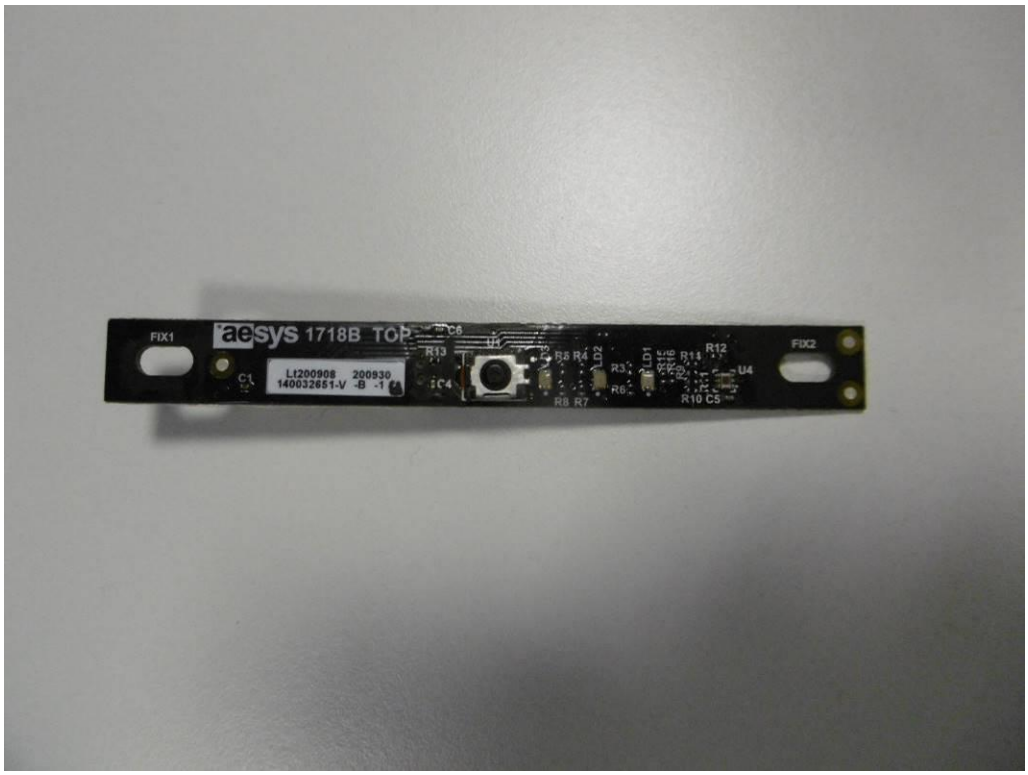

Fig. 25. Top view of electronic board 1718

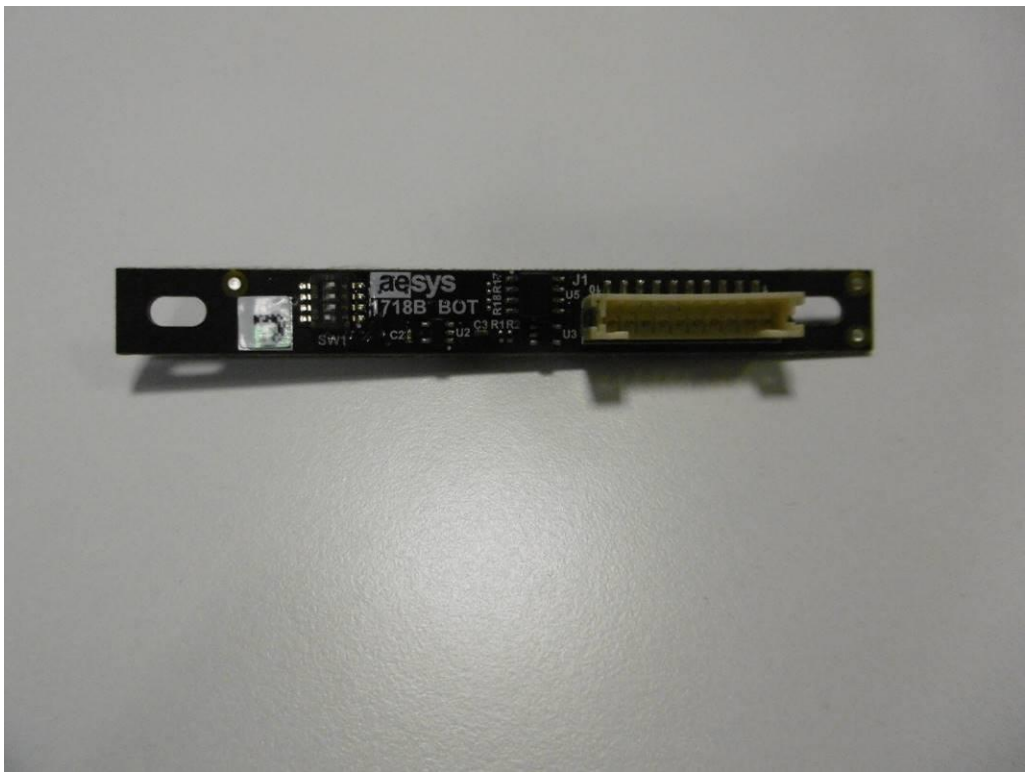

Fig. 26. Bottom view of electronic board 1718

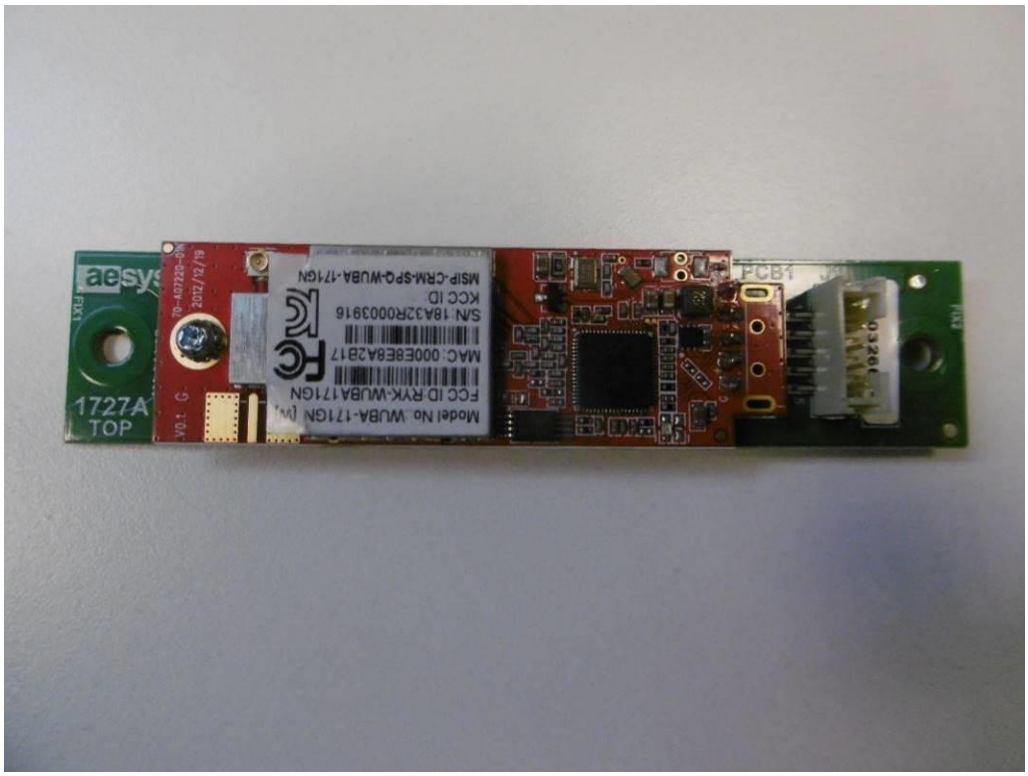

Fig. 27. Top view of electronic board 1727

Fig. 28. Bottom view of electronic board 1727

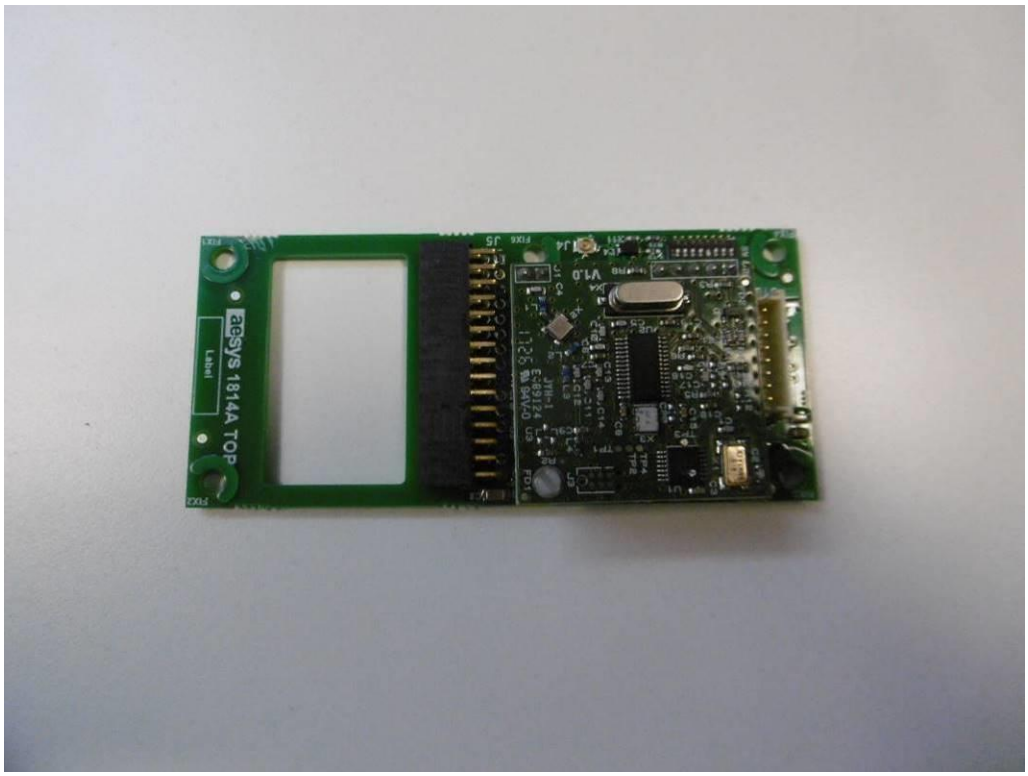

Fig. 29. Top view of electronic board 1814 with additional board mounted

Fig. 30. Top view of electronic board 1814 without additional electronic board mounted

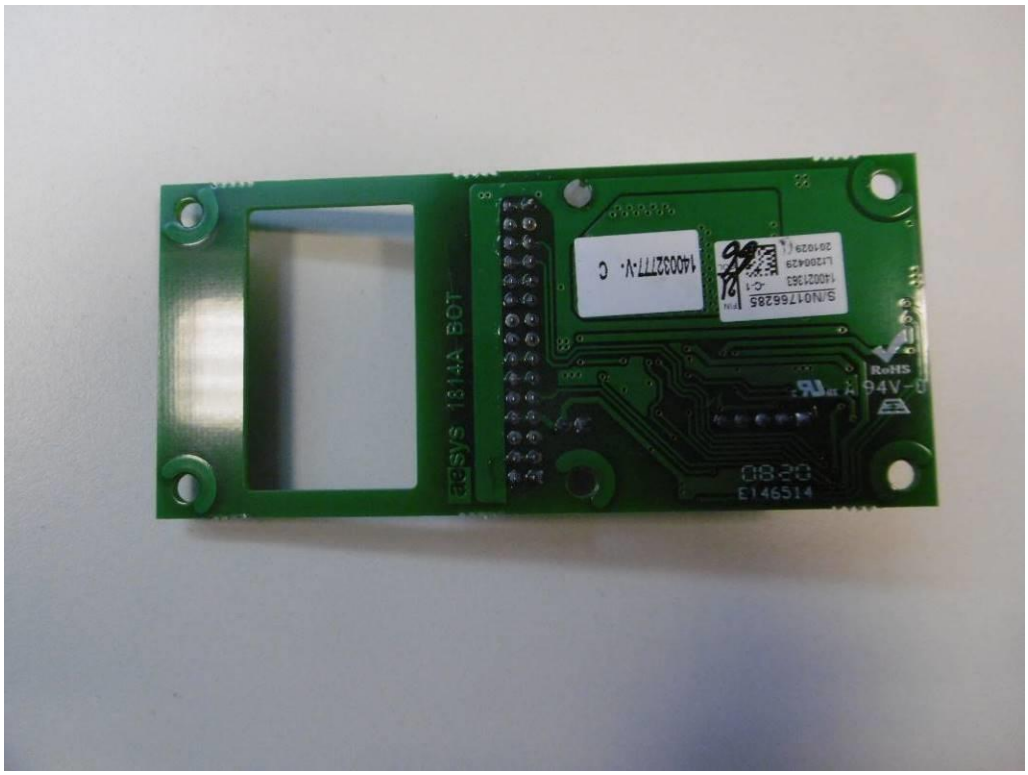

Fig. 31. Bottom view of electronic board 1814

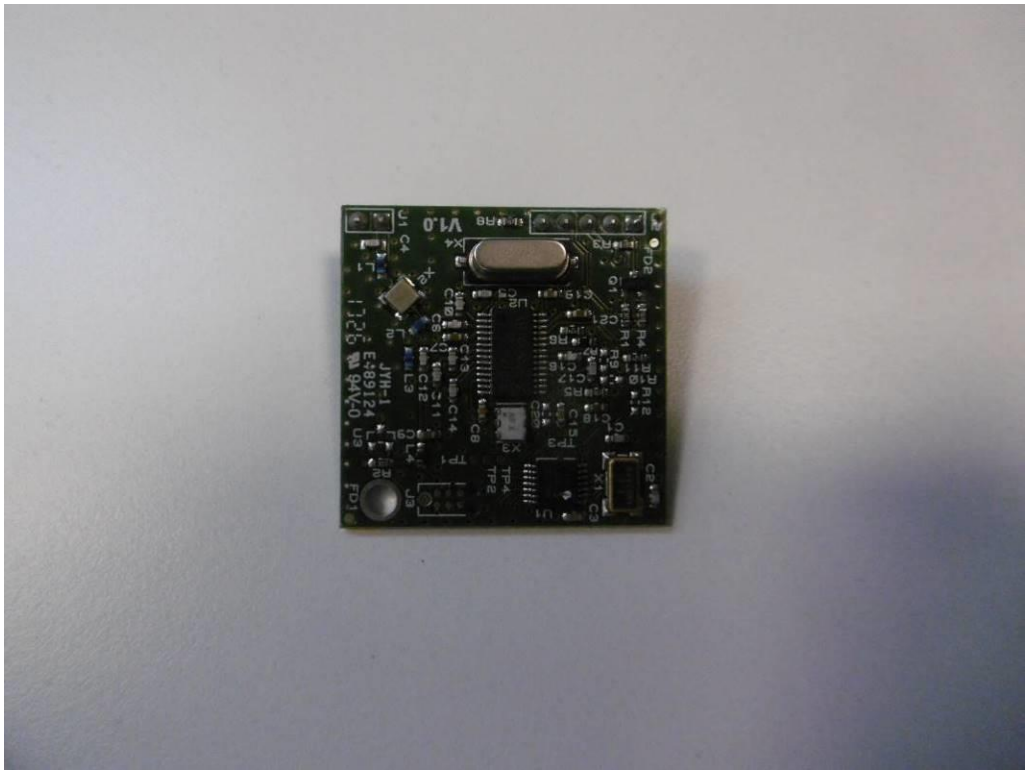

Fig. 32. Top view of additional electronic board mounted over electronic board 1814

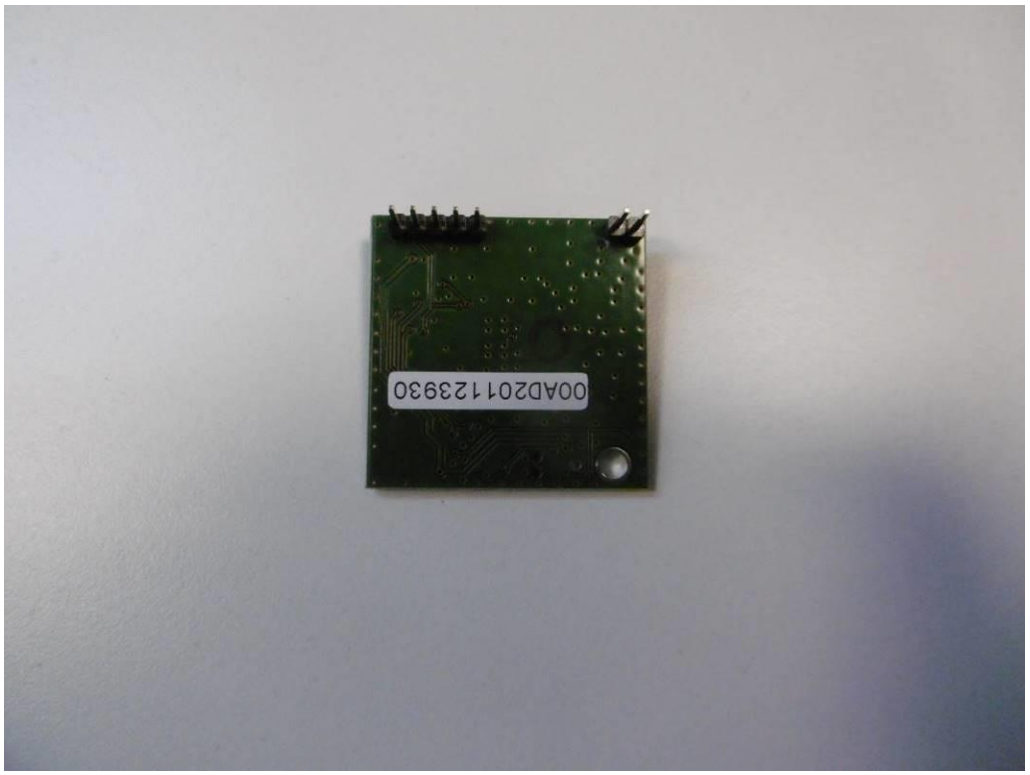

Fig. 33. Bottom view of additional electronic board mounted over electronic board 1814

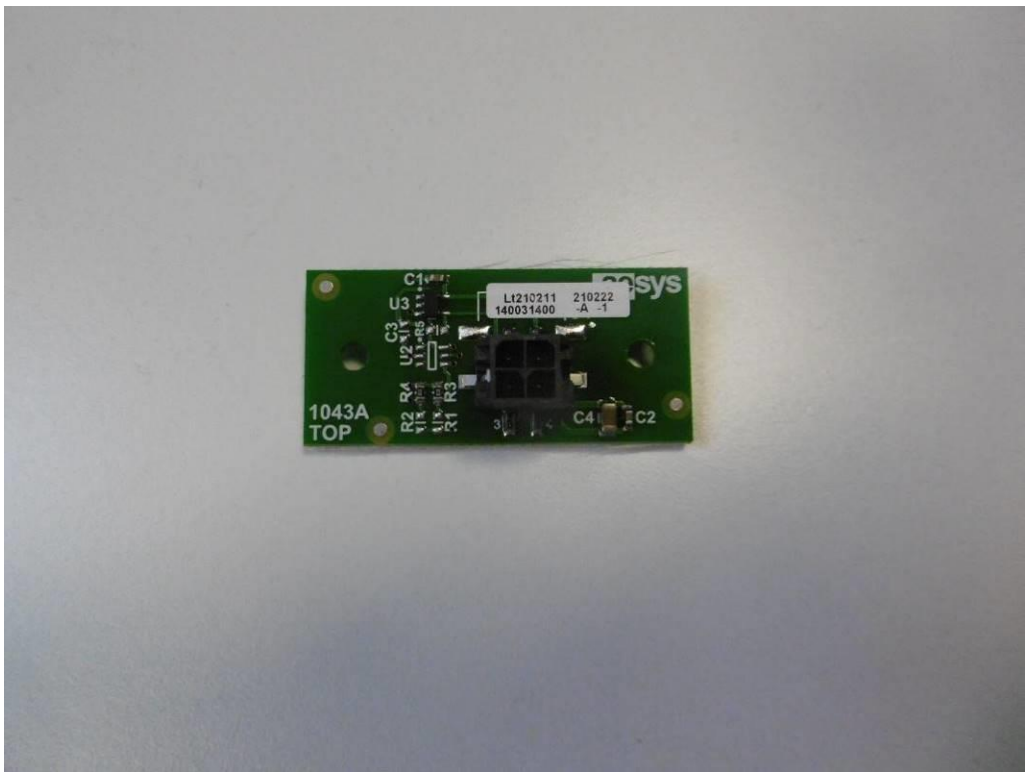

Fig. 34. Top view of electronic board 1043A

Fig. 35. Bottom view of electronic board 1043A

Fig. 36. Top view of PC board

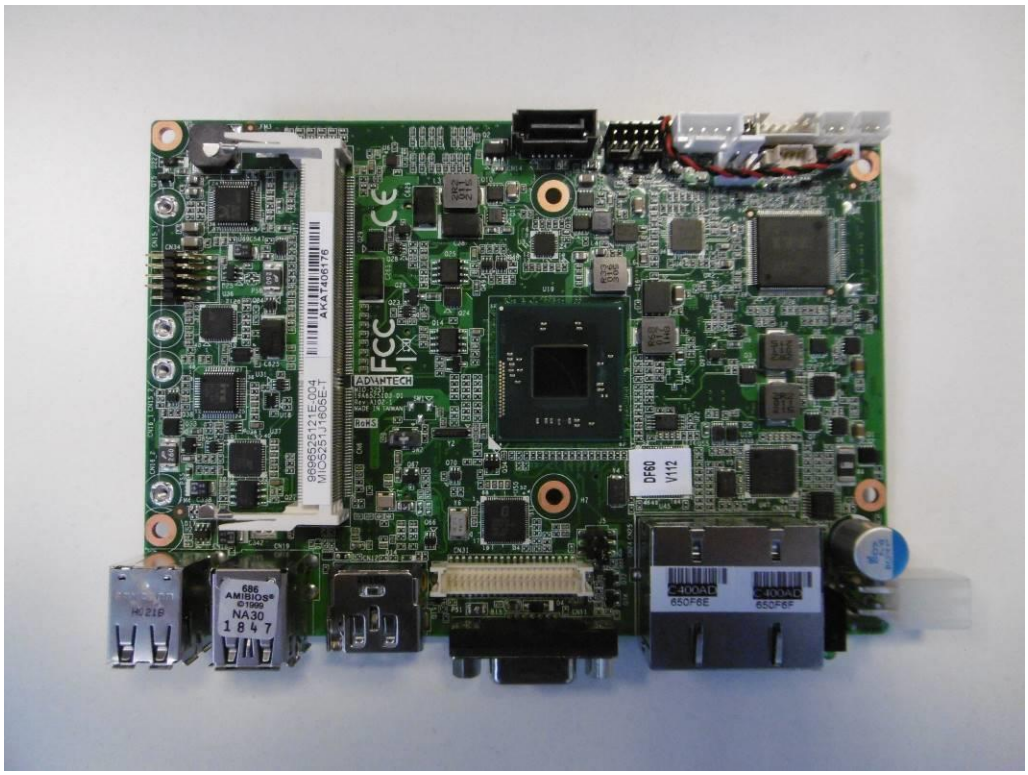

Fig. 37. Top view of PC board, without DRAM module

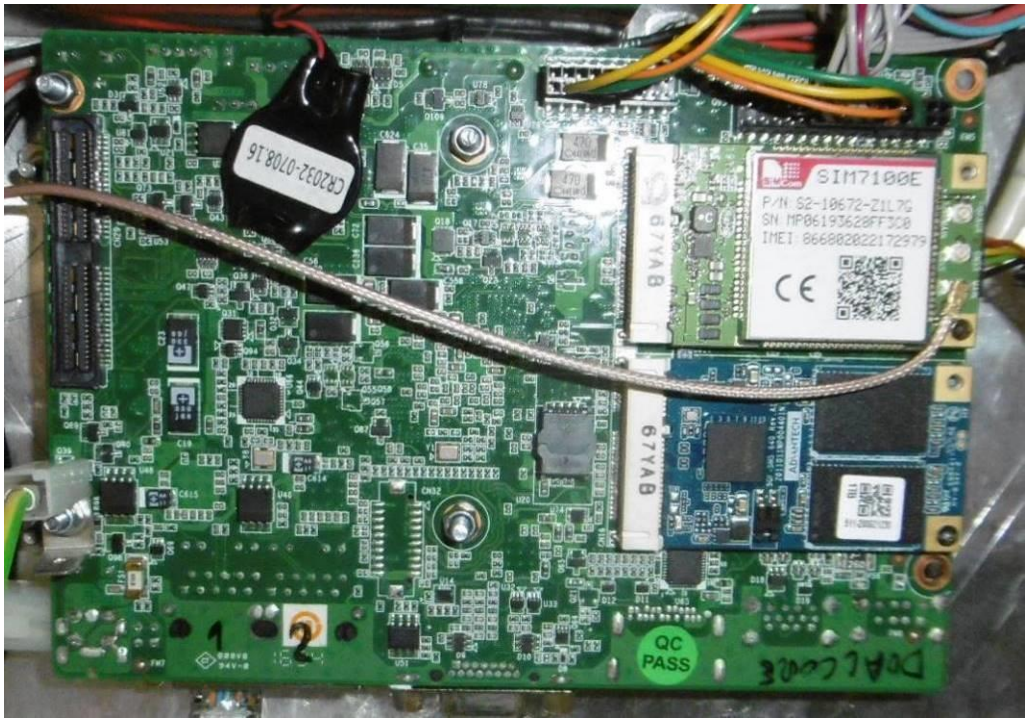

Fig. 38. Bottom view of PC board

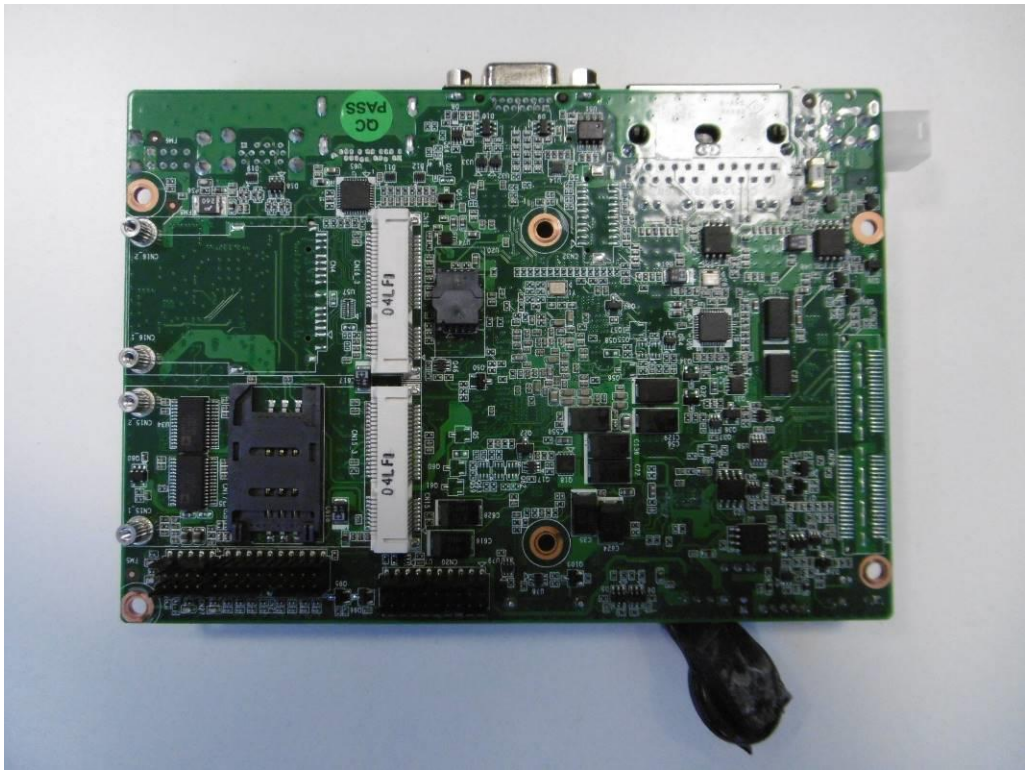

Fig. 39. Bottom view of PC board, without SSD module and radio module

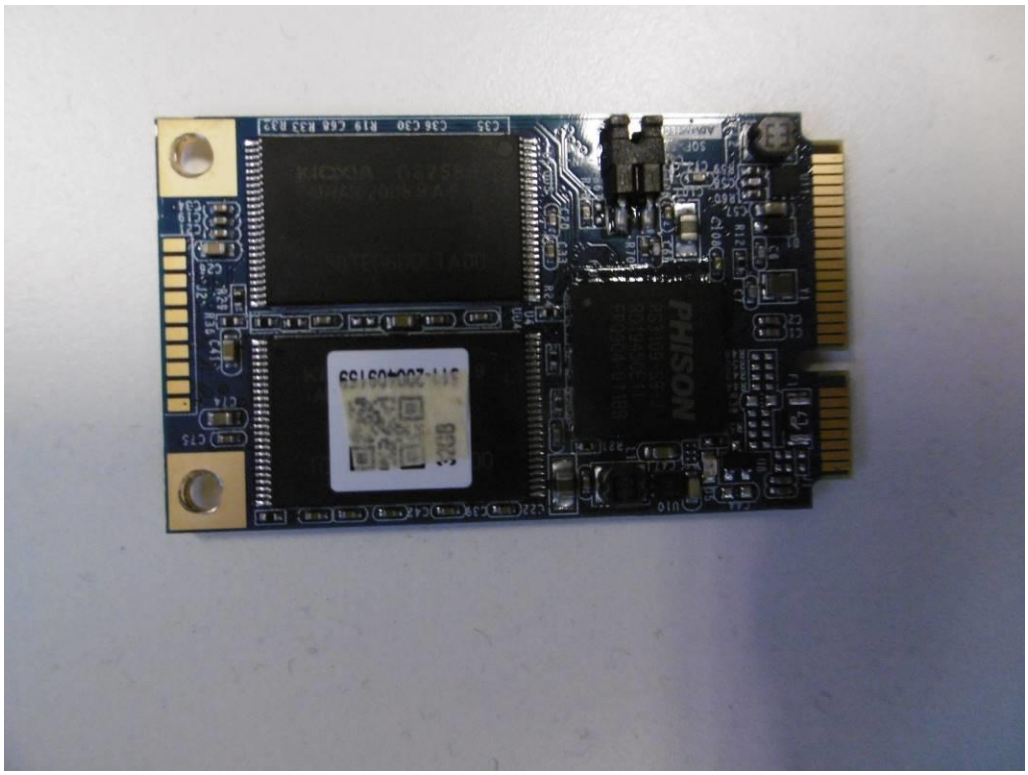

Fig. 40. Top view of SSD Module

Fig. 41. Bottom view of SSD Module

Fig. 42. Top view of SSD Module

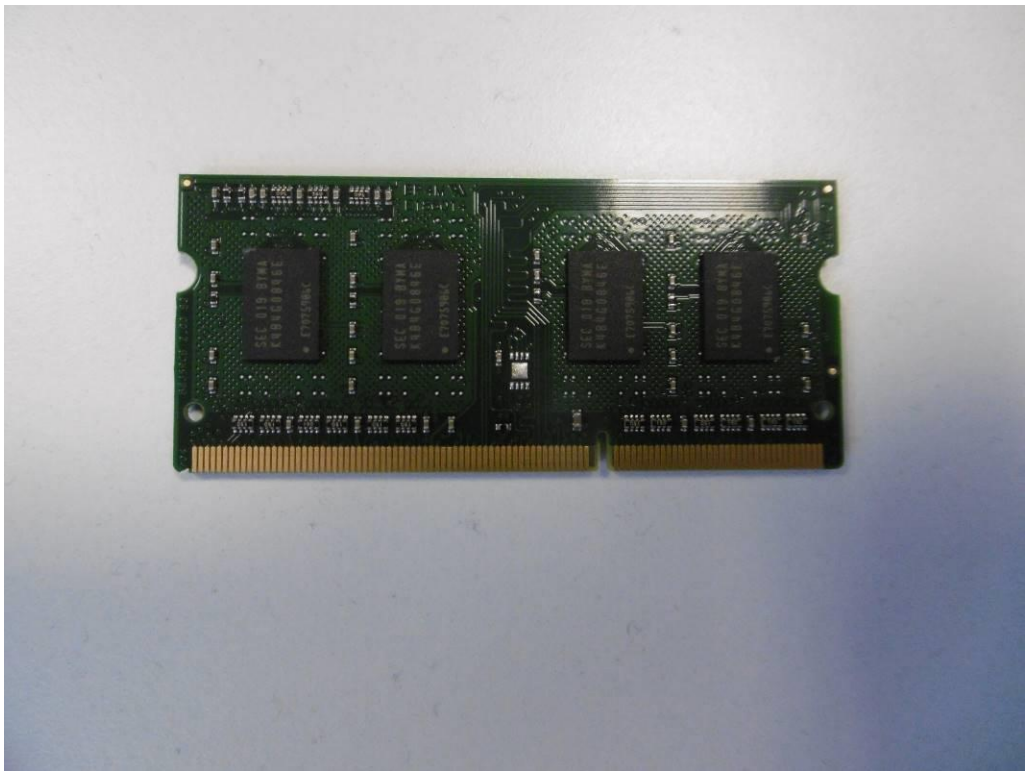

Fig. 43. Bottom view of SSD Module

Fig. 44. Top view of Radio Module

Fig. 45. Bottom view of Radio Module

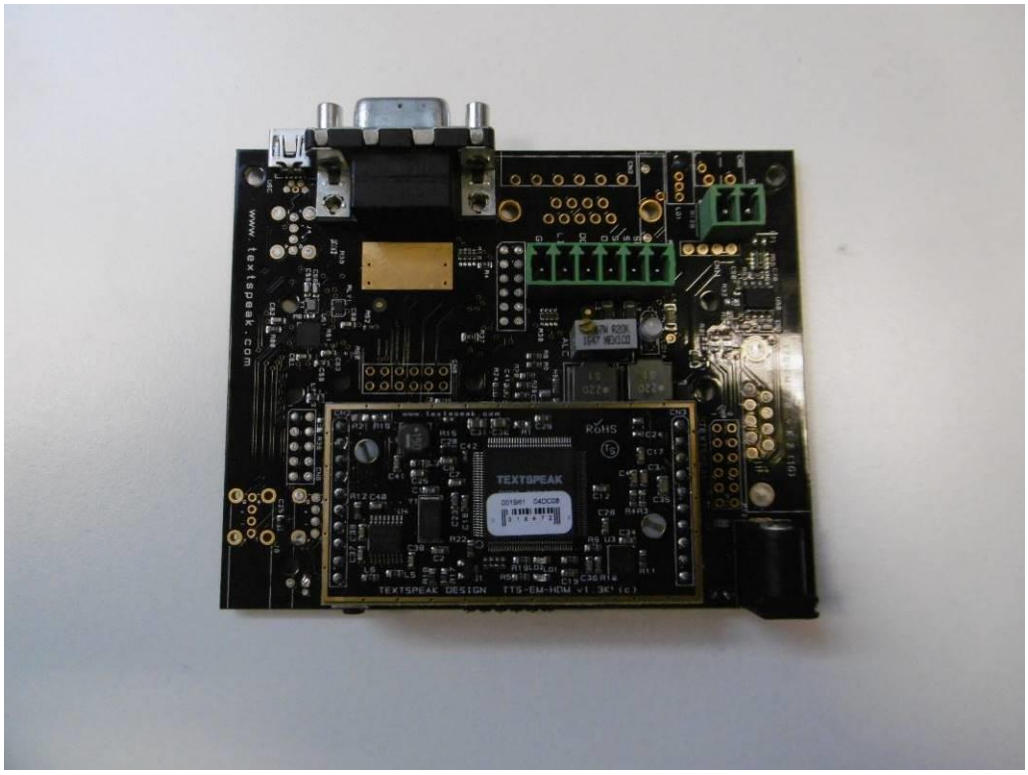

Fig. 46. Top view of Text-to-speech board expansion board with Text-to-speech board mounted

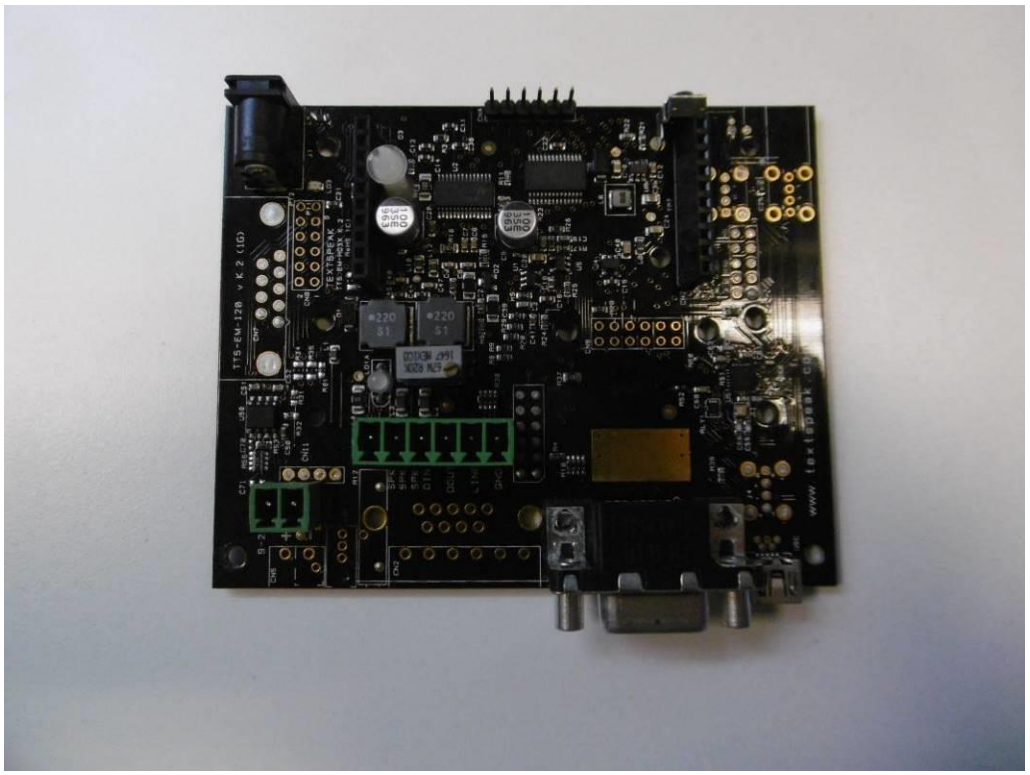

Fig. 47. Top view of Text-to-speech board expansion board without Text-to-speech board mounted

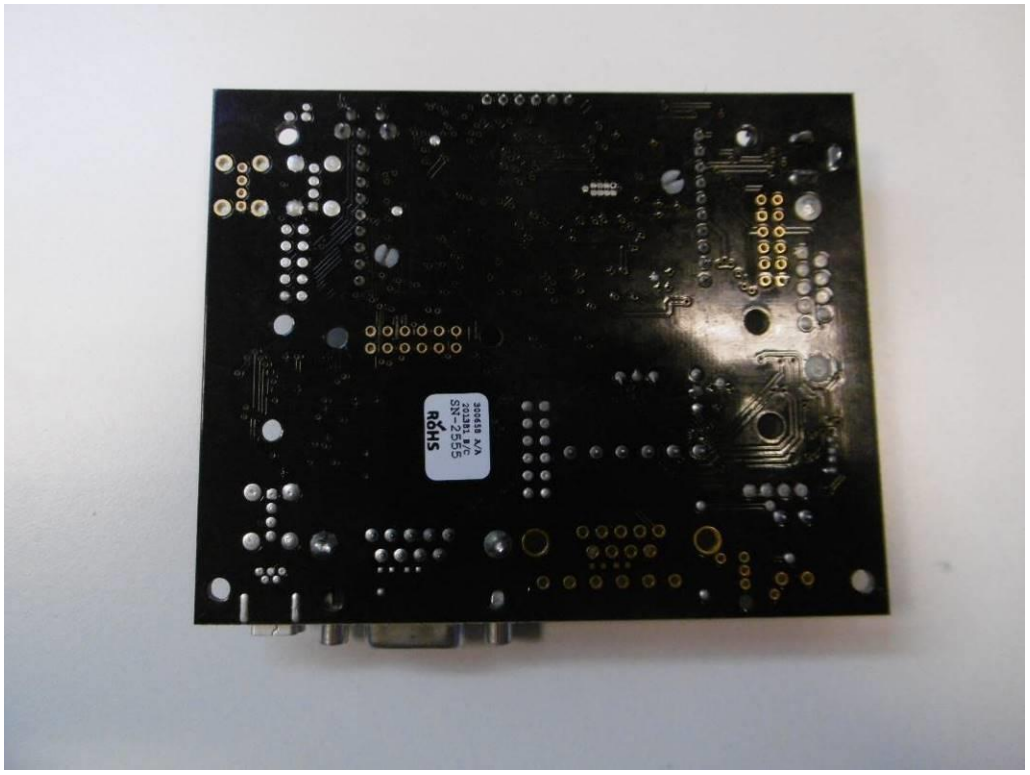

Fig. 48. Bottom view of Text-to-speech board expansion board

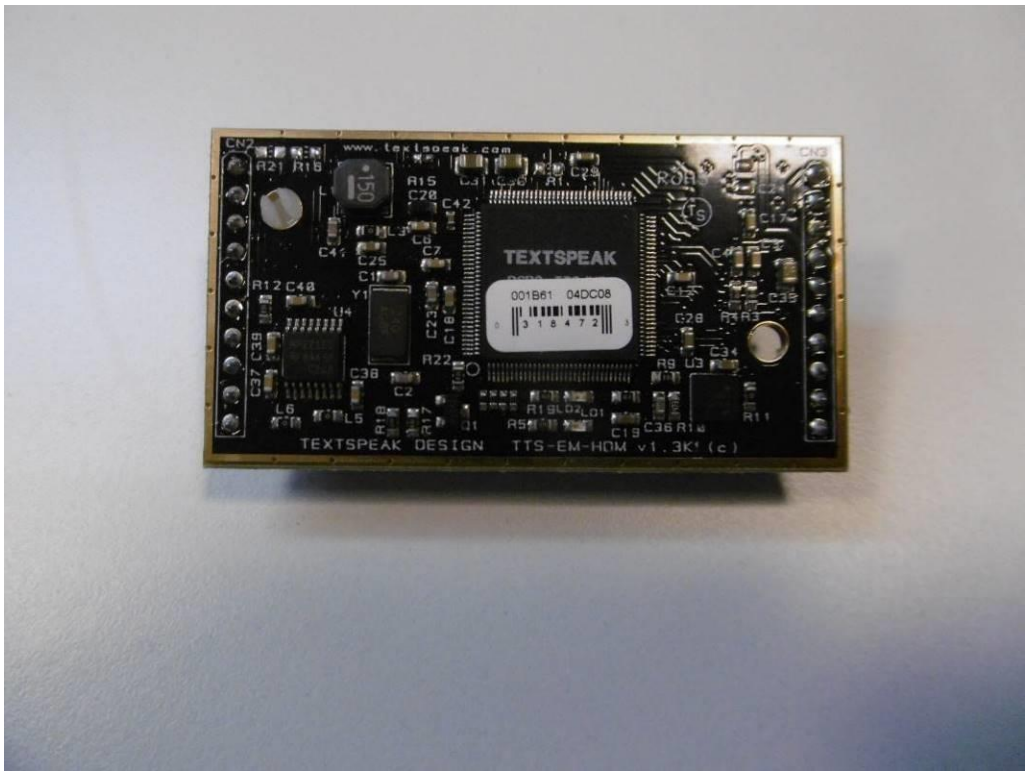

Fig. 49. Top view of Text-to-speech board

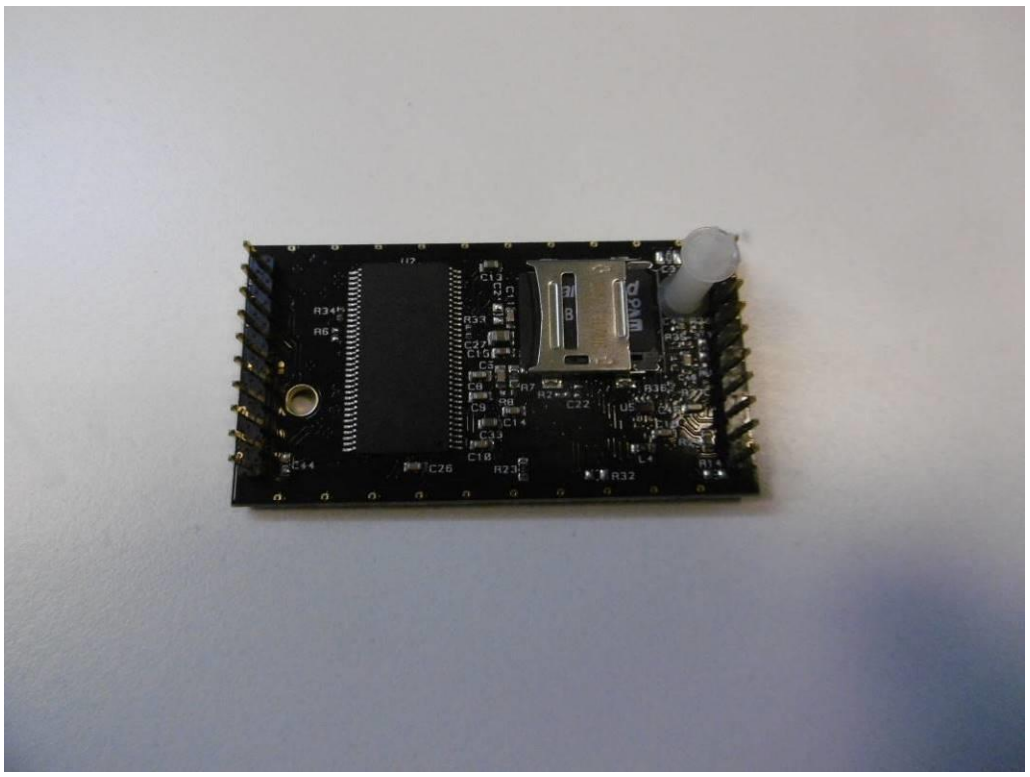

Fig. 50. Bottom view of Text-to-speech board

Fig. 51. Overall view of Fibre-Ethernet converter mod. CS6011SC

Fig. 52. Overall view of Fibre-Ethernet converter mod. CS6011SC

Fig. 53. Front view of Fibre-Ethernet converter mod. CS6011SC

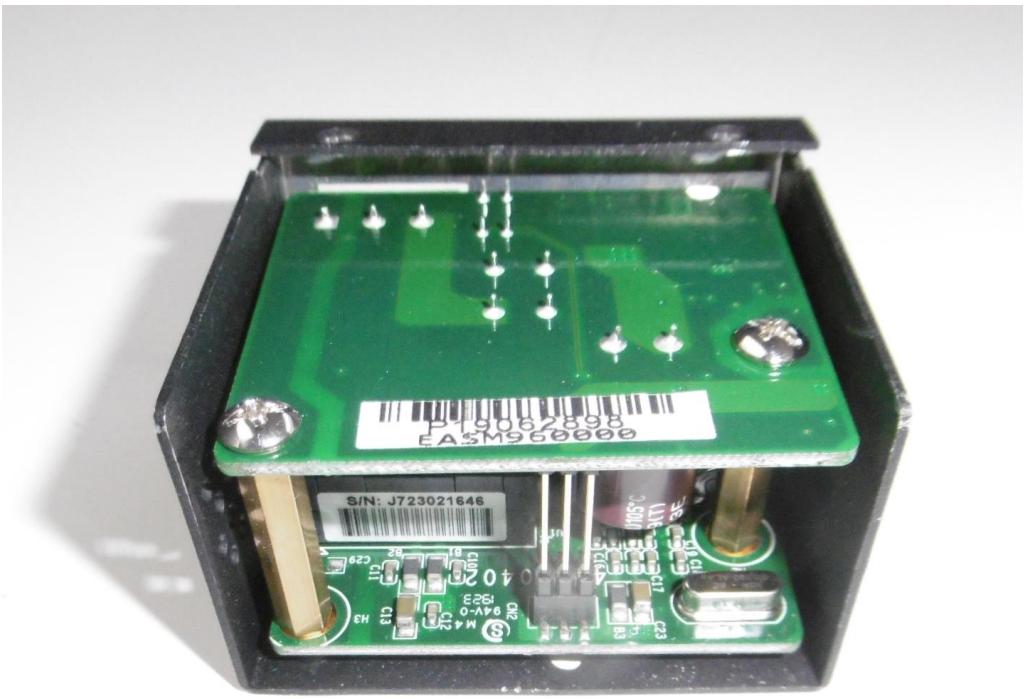

Fig. 54. Internal view of Fibre-Ethernet converter mod. CS6011SC

Fig. 55. Internal view of Fibre-Ethernet converter mod. CS6011SC

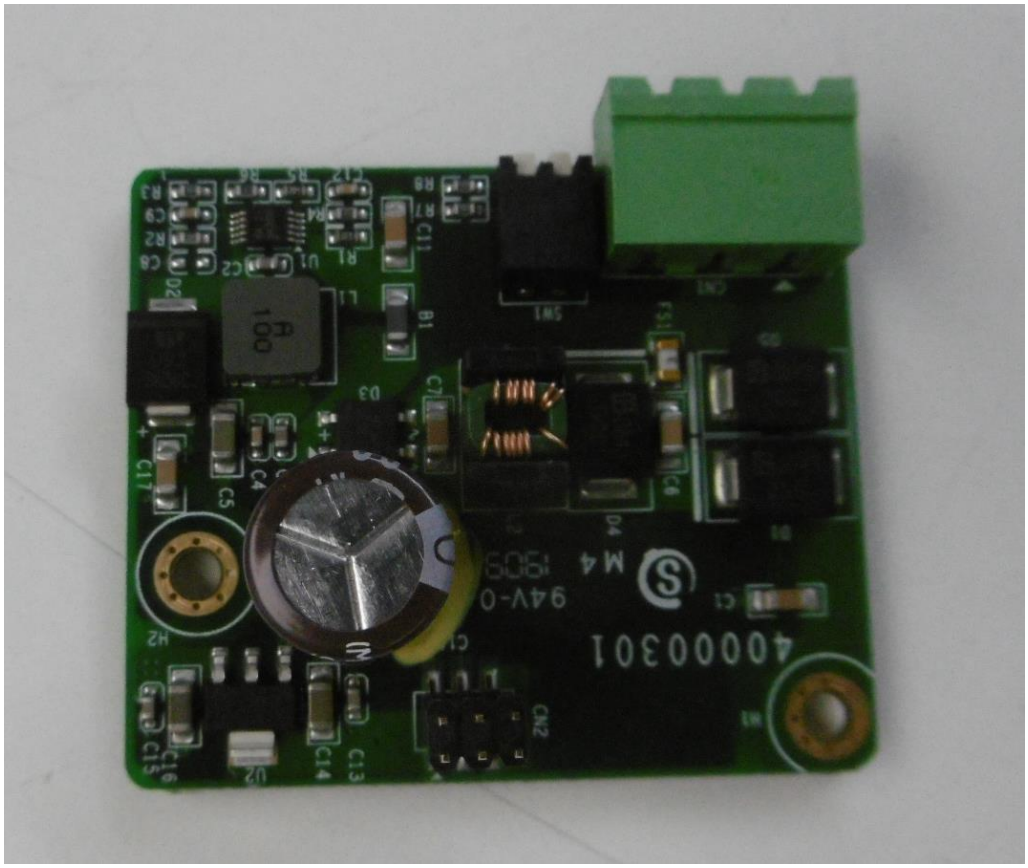

Fig. 56. Top view of electronic board 40000301

Fig. 57. Bottom view of electronic board 40000301

Fig. 58. Top view of electronic board 40000402

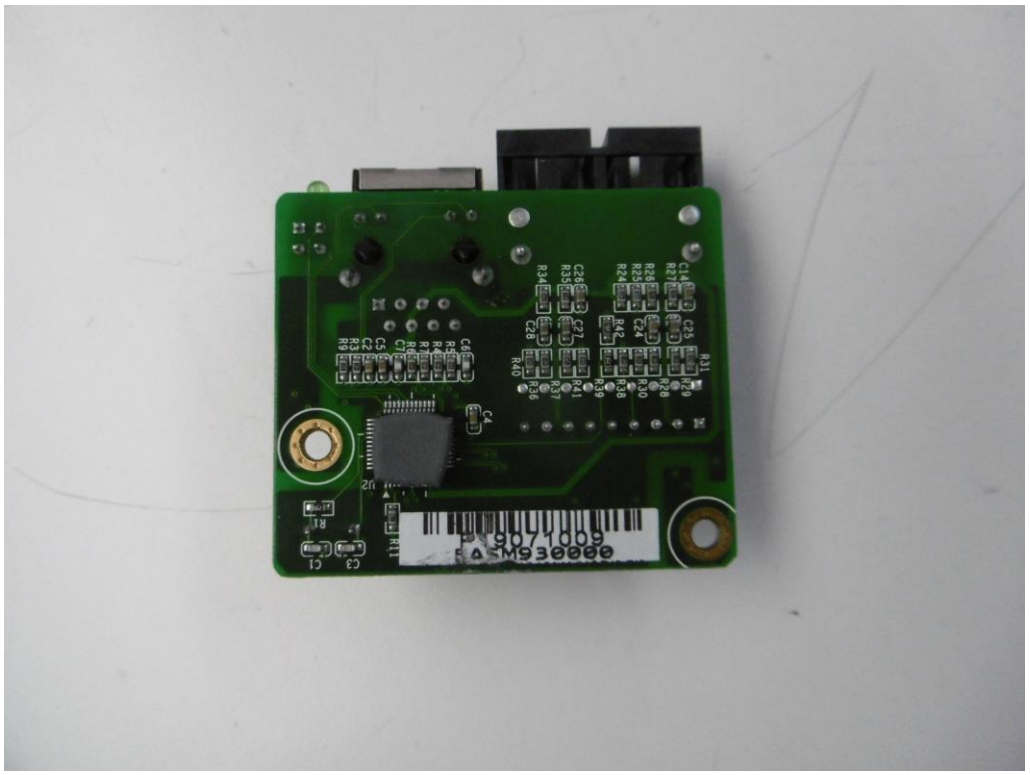

Fig. 59. Bottom view of electronic board 40000402

Fig. 60. Overall view of Fibre-Ethernet converter mod. CS8011SX-mini

Fig. 61. Overall view of Fibre-Ethernet converter mod. CS8011SX-mini

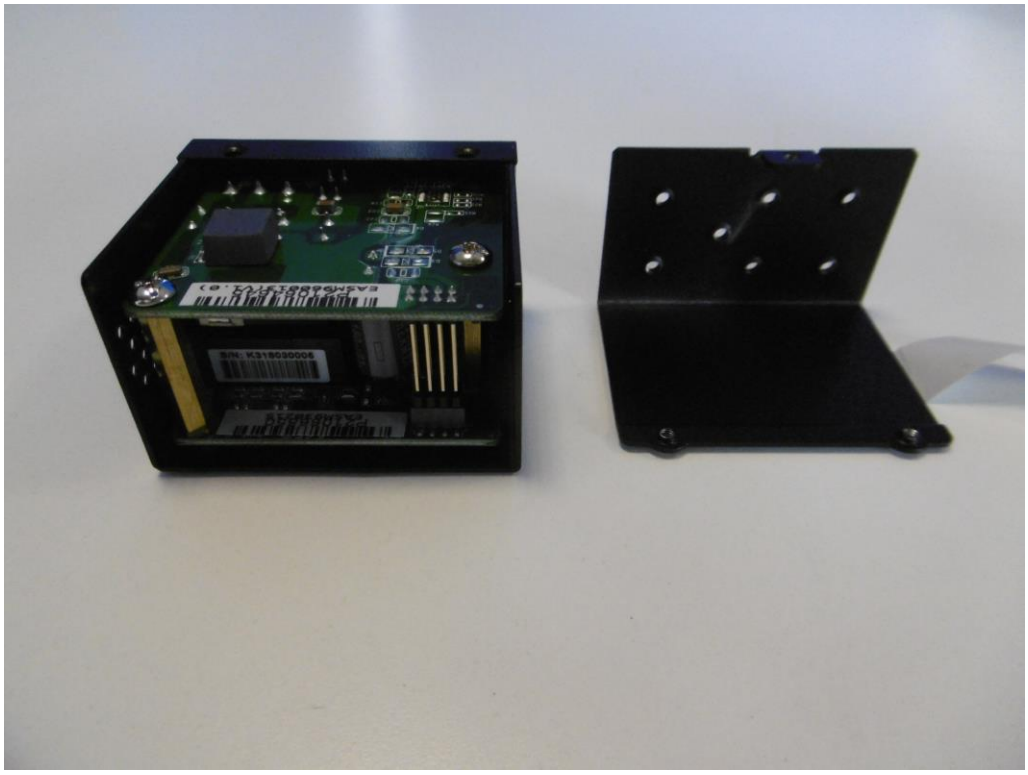

Fig. 62. Internal view of Fibre-Ethernet converter mod. CS8011SX-mini

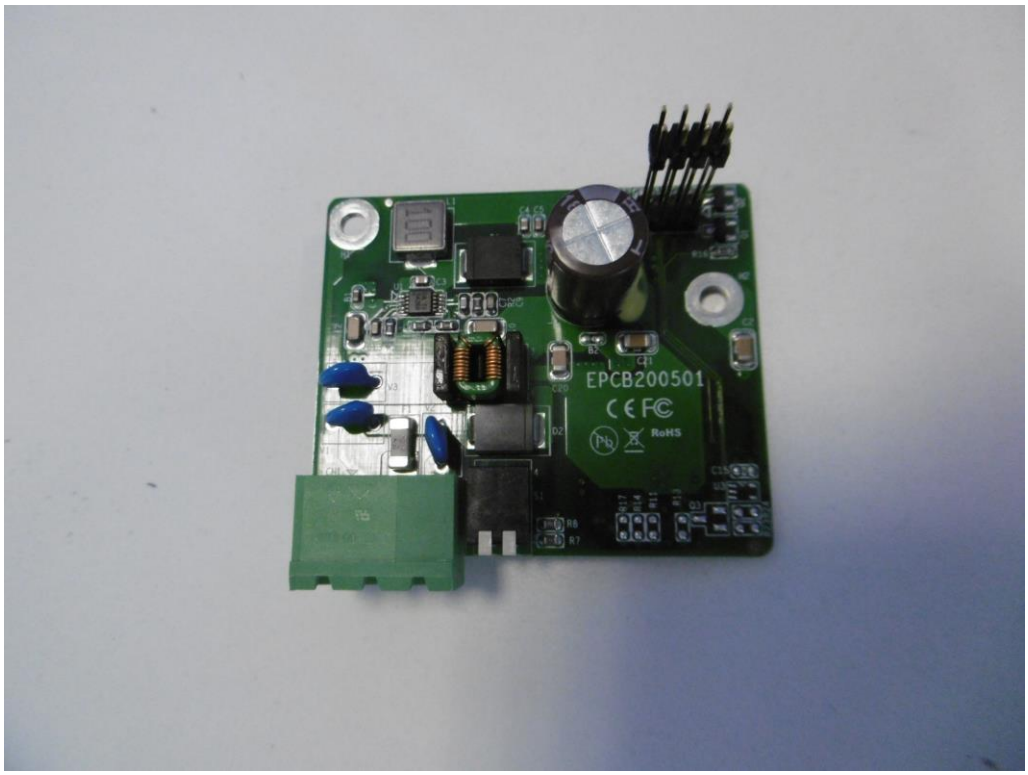

Fig. 63. Top view of electronic board EPCB200501

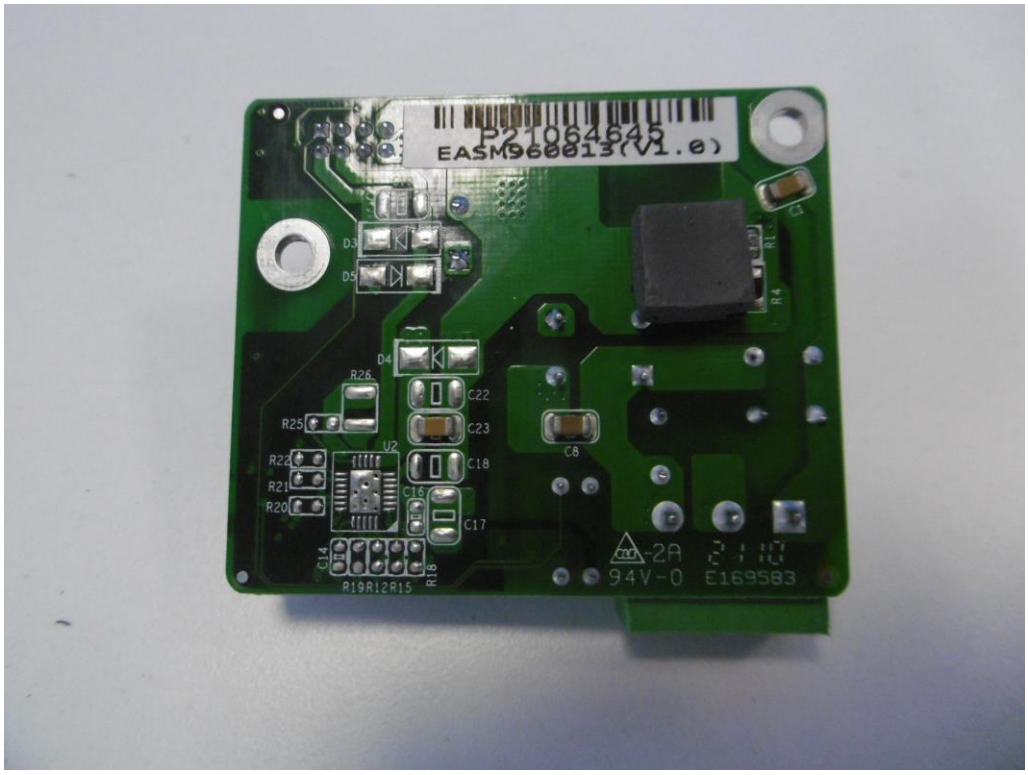

Fig. 64. Bottom view of electronic board EPCB200501

Fig. 65. Top view of electronic board EPCB200511

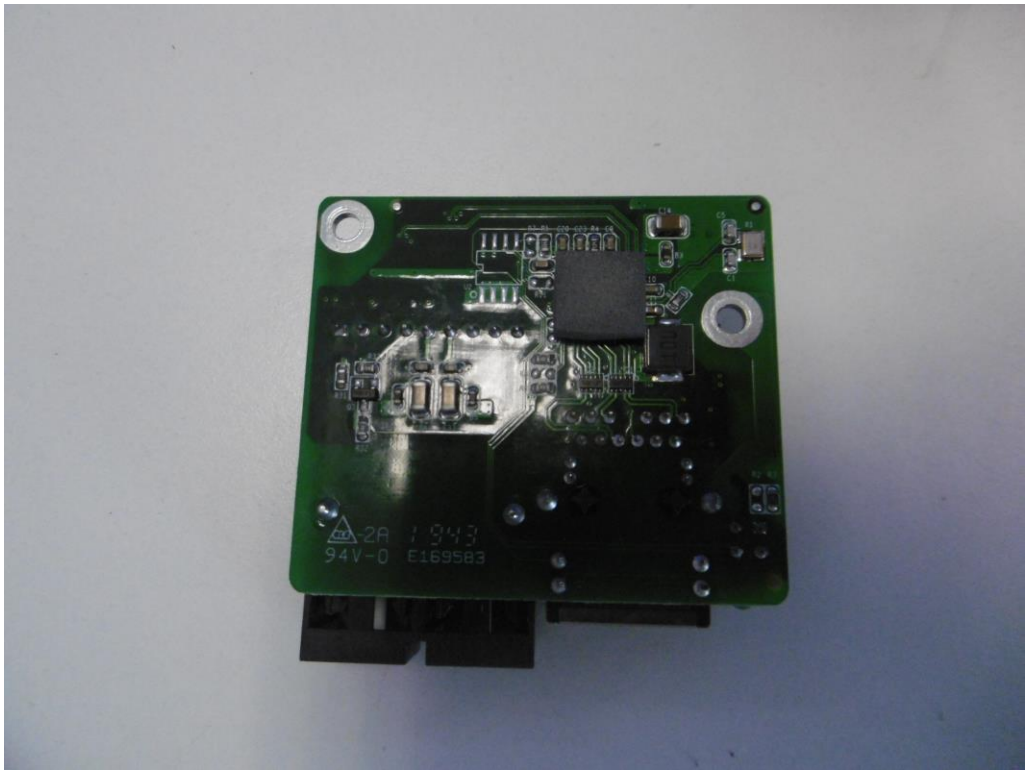

Fig. 66. Bottom view of electronic board EPCB200511

Fig. 67. Internal view of Sound bar

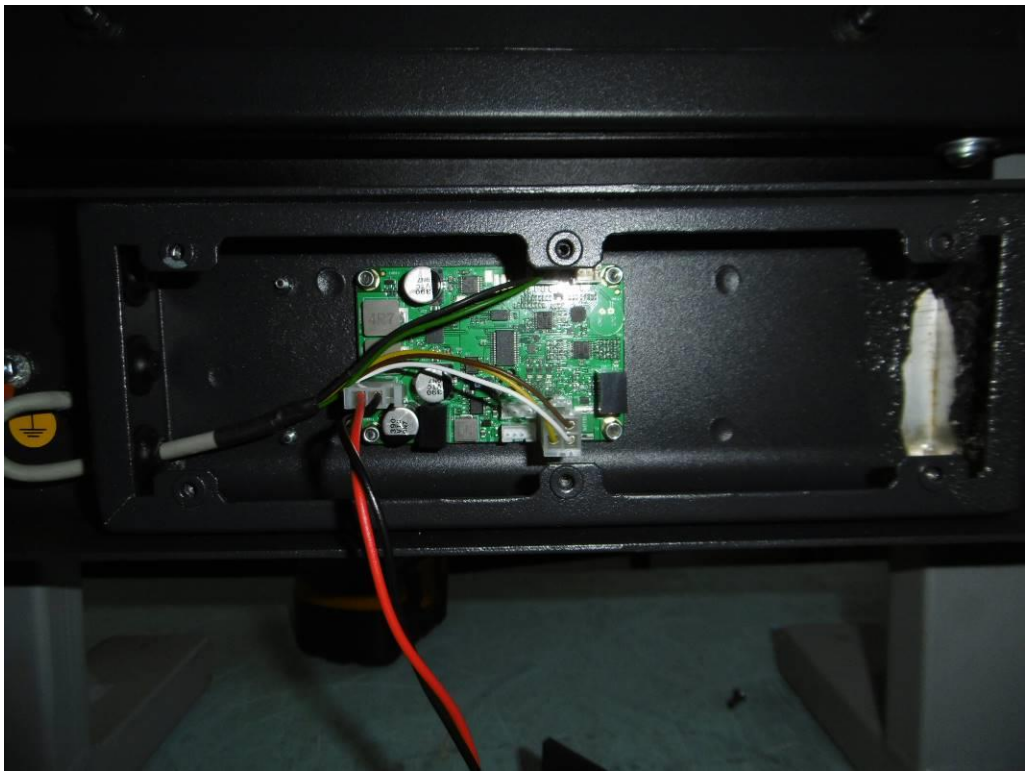

Fig. 68. Internal view of Sound bar, detail of internal electronic board

Fig. 69. Internal view of Sound bar, detail of loudspeaker

ATTACHMENT 3: EUROPEAN GROUP DIFFERENCES AND NATIONAL DIFFERENCES

<table>
<tr><td colspan="4">IEC62368_1D - ATTACHMENT</td></tr>
<tr><td>Clause</td><td>Requirement + Test</td><td>Result - Remark</td><td>Verdict</td></tr>
<tr><td colspan="4">ATTACHMENT TO TEST REPORT
IEC 62368-1
EUROPEAN GROUP DIFFERENCES AND NATIONAL DIFFERENCES
(Audio/video, information and communication technology equipment - Part 1: Safety requirements)</td></tr>
<tr><td colspan="4">Differences according to ..... : EN 62368-1:2014+A11:2017</td></tr>
<tr><td colspan="4">Attachment Form No. ..... : EU_GD_IEC62368_1D_II
Attachment Originator..... : Nemko AS
Master Attachment..... : Date 2021-02-04</td></tr>
<tr><td colspan="4">Copyright © 2021 IEC System for Conformity Testing and Certification of Electrical Equipment (IECEE), Geneva, Switzerland. All rights reserved.</td></tr>
<tr><td></td><td>CENELEC COMMON MODIFICATIONS (EN)</td><td></td><td>P</td></tr>
<tr><td></td><td>Clauses, subclauses, notes, tables, figures and annexes which are additional to those in IEC 62368-1:2014 are prefixed “Z”.</td><td></td><td>P</td></tr>
<tr><td>CONTENTS</td><td>Add the following annexes:
Annex ZA (normative) Normative references to international publications with their corresponding European publications
Annex ZB (normative) Special national conditions
Annex ZC (informative) A-deviations
Annex ZD (informative) IEC and CENELEC code designations for flexible cords</td><td></td><td>P</td></tr>
<tr><td></td><td>Delete all the “country” notes in the reference document (IEC 62368-1:2014) according to the following list:
<table>
<tr><td>0.2.1</td><td>Note</td><td>1</td><td>Note 3</td><td>4.1.15</td><td>Note</td></tr>
<tr><td>4.7.3</td><td>Note 1 and 2</td><td>5.2.2.2</td><td>Note</td><td>5.4.2.3.2.2 Table 13</td><td>Note c</td></tr>
<tr><td>5.4.2.3.2.4</td><td>Note 1 and 3</td><td>5.4.2.5</td><td>Note 2</td><td>5.4.5.1</td><td>Note</td></tr>
<tr><td>5.5.2.1</td><td>Note</td><td>5.5.6</td><td>Note</td><td>5.6.4.2.1</td><td>Note 2 and 3</td></tr>
<tr><td>5.7.5</td><td>Note</td><td>5.7.6.1</td><td>Note 1 and 2</td><td>10.2.1 Table 39</td><td>Note 2, 3 and 4</td></tr>
<tr><td>10.5.3</td><td>Note 2</td><td>10.6.2.1</td><td>Note 3</td><td>F.3.3.6</td><td>Note 3</td></tr>
</table></td><td></td><td>P</td></tr>
<tr><td></td><td>For special national conditions, see Annex ZB.</td><td></td><td>P</td></tr>
</table>

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Only the version on the IECEE Website is the current document version

IEC62368_1D - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
1	**Add** the following note: NOTE Z1 The use of certain substances in electrical and electronic equipment is restricted within the EU: see Directive 2011/65/EU.		P
4.Z1	**Add** the following new subclause after 4.9: To protect against excessive current, short-circuits and earth faults in circuits connected to an a.c. **mains**, protective devices shall be included either as integral parts of the equipment or as parts of the building installation, subject to the following, a), b) and c): a) except as detailed in b) and c), protective devices necessary to comply with the requirements of B.3.1 and B.4 shall be included as parts of the equipment; b) for components in series with the mains input to the equipment such as the supply cord, appliance coupler, r.f.i. filter and switch, short-circuit and earth fault protection may be provided by protective devices in the building installation; c) it is permitted for **pluggable equipment type B** or **permanently connected equipment**, to rely on dedicated overcurrent and short-circuit protection in the building installation, provided that the means of protection, e.g. fuses or circuit breakers, is fully specified in the installation instructions. If reliance is placed on protection in the building installation, the installation instructions shall so state, except that for **pluggable equipment type A** the building installation shall be regarded as providing protection in accordance with the rating of the wall socket outlet.	Pluggable equipment type A, components required for compliance with Annex B.3 and B.4 are provided as a part of equipment.	P
5.4.2.3.2.4	**Add** the following to the end of this subclause: The requirement for interconnection with **external circuit** is in addition given in EN 50491-3:2009.	No connection to external circuits.	N/A
10.2.1	Add the following to [c] and [d] in table 39: For additional requirements, see 10.5.1.	Considered.	P

IEC62368_1D - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
10.5.1	**Add** the following after the first paragraph: *For RS 1 compliance is checked by measurement under the following conditions:* *In addition to the normal operating conditions, all controls adjustable from the outside by hand, by any object such as a tool or a coin, and those internal adjustments or presets which are not locked in a reliable manner, are adjusted so as to give maximum radiation whilst maintaining an intelligible picture for 1 h, at the end of which the measurement is made.* NOTE Z1 Soldered joints and paint lockings are examples of adequate locking. *The dose-rate is determined by means of a radiation monitor with an effective area of 10 cm², at any point 10 cm from the outer surface of the apparatus.* *Moreover, the measurement shall be made under fault conditions causing an increase of the high-voltage, provided an intelligible picture is maintained for 1 h, at the end of which the measurement is made.* *For RS1, the dose-rate shall not exceed 1 µSv/h taking account of the background level.* NOTE Z2 These values appear in Directive 96/29/Euratom of 13 May 1996.		N/A
10.6.1	**Add** the following paragraph to the end of the subclause: EN 71-1:2011, 4.20 and the related tests methods and measurement distances apply.		N/A
10.Z1	**Add** the following new subclause after 10.6.5. **10.Z1 Non-ionizing radiation from radio frequencies in the range 0 to 300 GHz** The amount of non-ionizing radiation is regulated by European Council Recommendation 1999/519/EC of 12 July 1999 on the limitation of exposure of the general public to electromagnetic fields (0 Hz to 300 GHz). For intentional radiators, ICNIRP guidelines should be taken into account for Limiting Exposure to Time-Varying Electric, Magnetic, and Electromagnetic Fields (up to 300 GHz). For hand-held and body-mounted devices, attention is drawn to EN 50360 and EN 50566	Equipment complies with EN 62311 standard. Refer to separate test report ref. no. 422879-1TRFEMF issued by Nemko Spa.	P
G.7.1	**Add** the following note: NOTE Z1 The harmonized code designations corresponding to the IEC cord types are given in Annex ZD.		P

IEC62368_1D - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
Bibliography	**Add** the following standards: **Add** the following notes for the standards indicated: IEC 60130-9 NOTE Harmonized as EN 60130-9. IEC 60269-2 NOTE Harmonized as HD 60269-2. IEC 60309-1 NOTE Harmonized as EN 60309-1. IEC 60364 NOTE some parts harmonized in HD 384/HD 60364 series. IEC 60601-2-4 NOTE Harmonized as EN 60601-2-4. IEC 60664-5 NOTE Harmonized as EN 60664-5. IEC 61032:1997 NOTE Harmonized as EN 61032:1998 (not modified). IEC 61508-1 NOTE Harmonized as EN 61508-1. IEC 61558-2-1 NOTE Harmonized as EN 61558-2-1. IEC 61558-2-4 NOTE Harmonized as EN 61558-2-4. IEC 61558-2-6 NOTE Harmonized as EN 61558-2-6. IEC 61643-1 NOTE Harmonized as EN 61643-1. IEC 61643-21 NOTE Harmonized as EN 61643-21. IEC 61643-311 NOTE Harmonized as EN 61643-311. IEC 61643-321 NOTE Harmonized as EN 61643-321. IEC 61643-331 NOTE Harmonized as EN 61643-331.		P
ZB	**ANNEX ZB, SPECIAL NATIONAL CONDITIONS (EN)**		P
4.1.15	**Denmark, Finland, Norway** and **Sweden** To the end of the subclause the following is added: **Class I pluggable equipment type A** intended for connection to other equipment or a network shall, if safety relies on connection to reliable earthing or if surge suppressors are connected between the network terminals and **accessible** parts, have a marking stating that the equipment shall be connected to an earthed **mains** socket-outlet. The marking text in the applicable countries shall be as follows: In **Denmark**: “Apparatets stikprop skal tilsluttes en stikkontakt med jord som giver forbindelse til stikproppens jord.” In **Finland**: "Laite on liitettävä suojakoskettimilla varustettuun pistorasiaan" In **Norway**: “Apparatet må tilkoples jordet stikkontakt” In **Sweden**: “Apparaten skall anslutas till jordat uttag”		P
4.7.3	**United Kingdom** To the end of the subclause the following is added: The torque test is performed using a socket-outlet complying with BS 1363, and the plug part shall be assessed to the relevant clauses of BS 1363. Also see Annex G.4.2 of this annex	Power supply cord has not been considered in this test report. Equipment will be provided with a power supply cord suitable for country of sale.	N/A

IEC62368_1D - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
5.2.2.2	**Denmark** After the 2nd paragraph add the following: A warning (marking **safeguard**) for high **touch current** is required if the **touch current** exceeds the limits of 3,5 mA a.c. or 10 mA d.c.		N/A
5.4.11.1 and Annex G	**Finland and Sweden** To the end of the subclause the following is added: For separation of the telecommunication network from earth the following is applicable: If this insulation is solid, including insulation forming part of a component, it shall at least consist of either • two layers of thin sheet material, each of which shall pass the electric strength test below, or • one layer having a distance through insulation of at least 0,4 mm, which shall pass the electric strength test below. If this insulation forms part of a semiconductor component (e.g. an optocoupler), there is no distance through insulation requirement for the insulation consisting of an insulating compound completely filling the casing, so that clearances and creepage distances do not exist, if the component passes the electric strength test in accordance with the compliance clause below and in addition • passes the tests and inspection criteria of 5.4.8 with an electric strength test of 1,5 kV multiplied by 1,6 (the electric strength test of 5.4.9 shall be performed using 1,5 kV), and • is subject to routine testing for electric strength during manufacturing, using a test voltage of 1,5kV. It is permitted to bridge this insulation with a capacitor complying with EN 60384-14:2005, subclass Y2. A capacitor classified Y3 according to EN 60384-14:2005, may bridge this insulation under the following conditions: • the insulation requirements are satisfied by having a capacitor classified Y3 as defined by EN 60384-14, which in addition to the Y3 testing, is tested with an impulse test of 2,5 kV defined in 5.4.11; • the additional testing shall be performed on all the test specimens as described in EN 60384-14; the impulse test of 2,5 kV is to be performed before the endurance test in EN 60384-14, in the sequence of tests as described in EN 60384-14.		N/A
5.5.2.1	**Norway** After the 3rd paragraph the following is added: Due to the IT power system used, capacitors are required to be rated for the applicable line-to-line voltage (230 V).	Only inside separately approved AC/DC switching power supply and Internal appliance inlet with integrated EMI filter, fuse-holder and functional switch.	P

IEC62368_1D - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
5.5.6	**Finland, Norway** and **Sweden** To the end of the subclause the following is added: Resistors used as **basic safeguard** or bridging **basic insulation** in **class I pluggable equipment type A** shall comply with G.10.1 and the test of G.10.2.	Only inside separately approved AC/DC switching power supply and internal appliance inlet with integrated EMI filter, fuse-holder and functional switch.	P
5.6.1	**Denmark** **Add** to the end of the subclause Due to many existing installations where the socket-outlets can be protected with fuses with higher rating than the rating of the socket-outlets the protection for pluggable equipment type A shall be an integral part of the equipment. *Justification:* In Denmark an existing 13 A socket outlet can be protected by a 20 A fuse.	No socket-outlet-	N/A
5.6.4.2.1	**Ireland and United Kingdom** After the indent for **pluggable equipment type A**, the following is added: – the **protective current rating** is taken to be 13 A, this being the largest rating of fuse used in the **mains** plug.	Considered.	P
5.6.5.1	To the second paragraph the following is added: The range of conductor sizes of flexible cords to be accepted by terminals for equipment with a rated current over 10 A and up to and including 13 A is: 1,25 mm^2 to 1,5 mm^2 in cross-sectional area.		N/A
5.7.5	**Denmark** To the end of the subclause the following is added: The installation instruction shall be affixed to the equipment if the **protective conductor current** exceeds the limits of 3,5 mA a.c. or 10 mA d.c.		N/A

IEC62368_1D - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
5.7.6.1	**Norway and Sweden** To the end of the subclause the following is added: The screen of the television distribution system is normally not earthed at the entrance of the building and there is normally no equipotential bonding system within the building. Therefore the protective earthing of the building installation needs to be isolated from the screen of a cable distribution system. It is however accepted to provide the insulation external to the equipment by an adapter or an interconnection cable with galvanic isolator, which may be provided by a retailer, for example. The user manual shall then have the following or similar information in Norwegian and Swedish language respectively, depending on in what country the equipment is intended to be used in: “Apparatus connected to the protective earthing of the building installation through the mains connection or through other apparatus with a connection to protective earthing – and to a television distribution system using coaxial cable, may in some circumstances create a fire hazard. Connection to a television distribution system therefore has to be provided through a device providing electrical isolation below a certain frequency range (galvanic isolator, see EN 60728-11)” NOTE In Norway, due to regulation for CATV-installations, and in Sweden, a galvanic isolator shall provide electrical insulation below 5 MHz. The insulation shall withstand a dielectric strength of 1,5 kV r.m.s., 50 Hz or 60 Hz, for 1 min. Translation to Norwegian (the Swedish text will also be accepted in Norway): “Apparater som er koplet til beskyttelsesjord via nettplugg og/eller via annet jordtilkoplet utstyr – og er tilkoplet et koaksialbasert kabel-TV nett, kan forårsake brannfare. For å unngå dette skal det ved tilkopling av apparater til kabel-TV nett installeres en galvanisk isolator mellom apparatet og kabel-TV nettet.” Translation to Swedish: ”Apparater som är kopplad till skyddsjord via jordat vägguttag och/eller via annan utrustning och samtidigt är kopplad till kabel-TV nät kan i vissa fall medföra risk för brand. För att undvika detta skall vid anslutning av apparaten till kabel-TV nät galvanisk isolator finnas mellan apparaten och kabel-TV nätet.”.		N/A
5.7.6.2	**Denmark** To the end of the subclause the following is added: The warning (marking safeguard) for high touch current is required if the touch current or the protective current exceed the limits of 3,5 mA .		N/A

IEC62368_1D - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
B.3.1 and B.4	**Ireland and United Kingdom** The following is applicable: To protect against excessive currents and short-circuits in the primary circuit of **direct plug-in equipment**, tests according to Annexes B.3.1 and B.4 shall be conducted using an external miniature circuit breaker complying with EN 60898-1, Type B, rated 32A. If the equipment does not pass these tests, suitable protective devices shall be included as an integral part of the **direct plug-in equipment**, until the requirements of Annexes B.3.1 and B.4 are met	Not a direct plug-in equipment.	N/A
G.4.2	**Denmark** To the end of the subclause the following is added: Supply cords of single phase appliances having a rated current not exceeding 13 A shall be provided with a plug according to DS 60884-2-D1:2011. CLASS I EQUIPMENT provided with socket-outlets with earth contacts or which are intended to be used in locations where protection against indirect contact is required according to the wiring rules shall be provided with a plug in accordance with standard sheet DK 2-1a or DK 2-5a. If a single-phase equipment having a RATED CURRENT exceeding 13 A or if a poly-phase equipment is provided with a supply cord with a plug, this plug shall be in accordance with the standard sheets DK 6-1a in DS 60884-2-D1 or EN 60309-2. Mains socket outlets intended for providing power to Class II apparatus with a rated current of 2,5 A shall be in accordance DS 60884-2-D1:2011 standard sheet DKA 1-4a. Other current rating socket outlets shall be in compliance with Standard Sheet DKA 1-3a or DKA 1-1c. Mains socket-outlets with earth shall be in compliance with DS 60884-2-D1:2011 Standard Sheet DK 1-3a, DK 1-1c, DK1-1d, DK 1-5a or DK 1-7a *Justification:* Heavy Current Regulations, Section 6c	Power supply cord has not been considered in this test report. Equipment will be provided with a power supply cord suitable for country of sale.	N/A
G.4.2	**United Kingdom** To the end of the subclause the following is added: The plug part of direct plug-in equipment shall be assessed to BS 1363: Part 1, 12.1, 12.2, 12.3, 12.9, 12.11, 12.12, 12.13, 12.16, and 12.17, except that the test of 12.17 is performed at not less than 125 °C. Where the metal earth pin is replaced by an Insulated Shutter Opening Device (ISOD), the requirements of clauses 22.2 and 23 also apply.	Not a direct plug-in equipment.	N/A

IEC62368_1D - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
G.7.1	**United Kingdom** To the first paragraph the following is added: Equipment which is fitted with a flexible cable or cord and is designed to be connected to a mains socket conforming to BS 1363 by means of that flexible cable or cord shall be fitted with a 'standard plug' in accordance with the Plugs and Sockets etc (Safety) Regulations 1994, Statutory Instrument 1994 No. 1768, unless exempted by those regulations. NOTE "Standard plug" is defined in SI 1768:1994 and essentially means an approved plug conforming to BS 1363 or an approved conversion plug.	Power supply cord has not been considered in this test report. Equipment will be provided with a power supply cord suitable for country of sale.	N/A
G.7.1	**Ireland** To the first paragraph the following is added: Apparatus which is fitted with a flexible cable or cord shall be provided with a plug in accordance with Statutory Instrument 525: 1997, "13 A Plugs and Conversion Adapters for Domestic Use Regulations: 1997. S.I. 525 provides for the recognition of a standard of another Member State which is equivalent to the relevant Irish Standard	Power supply cord has not been considered in this test report. Equipment will be provided with a power supply cord suitable for country of sale.	N/A
G.7.2	**Ireland and United Kingdom** To the first paragraph the following is added: A power supply cord with a conductor of 1,25 mm^2 is allowed for equipment which is rated over 10 A and up to and including 13 A.		N/A
ZC	*ANNEX ZC, NATIONAL DEVIATIONS (EN)*		**N/A**
10.5.2	**Germany** The following requirement applies: For the operation of any cathode ray tube intended for the display of visual images operating at an acceleration voltage exceeding 40 kV, authorization is required, or application of type approval (Bauartzulassung) and marking. *Justification:* German ministerial decree against ionizing radiation (Röntgenverordnung), in force since 2002-07-01, implementing the European Directive 96/29/EURATOM. **NOTE** Contact address: Physikalisch-Technische Bundesanstalt, Bundesallee 100, D-38116 Braunschweig, Tel.: Int +49-531-592-6320, Internet: http://www.ptb.de		N/A

IEC62368_1D ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
ATTACHMENT TO TEST REPORT IEC 62368-1 (AUSTRALIA / NEW ZEALAND) NATIONAL DIFFERENCES (**Audio/video, information and communication technology equipment**)			
Differences according to ..... : AS/NZS 62368.1:2018			
TRF template used: .....: IECEE OD-2020-F3, Ed. 1.1			
Attachment Form No. ..... : AU_NZ_ND_IEC62368_1D **Attachment Originator .....** : JAS-ANZ **Master Attachment**..... : 2021-12-21			
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	National Differences		
Appendix ZZ	Variations to IEC 62368-1:2014 (ED. 2.0) for Australia and New Zealand		P
ZZ1 Scope	This Appendix lists the normative variations to IEC 62368-1:2014 (ED. 2.0)		P
ZZ2 Variations	The following modifications are required for Australian/New Zealand conditions:		P
2	*Add* the following to the list of normative references: The following normative documents are referenced in Appendix ZZ: -AS/NZS 3112, *Approval and test specification—Plugs and socket-outlets* -AS/NZS 3123, *Approval and test specification—Plugs, socket-outlets and couplers for general industrial application* -AS/NZS 3191, *Electric flexible cords* -AS/NZS 60065, *Audio, video and similar electronic apparatus—Safety requirements (IEC 60065:2015 (ED.8.0) MOD)* -AS/NZS 60320.1, *Appliance couplers for household and similar general purposes, Part 1: General requirements (IEC 60320-1, Ed.2.1 (2007) MOD)* -AS/NZS 60320.2.2, *Appliance couplers for household and similar general purposes Part 2.2: Interconnection couplers for household and similar equipment (IEC 60320-2-2, Ed.2.0 (1998) MOD)* -AS/NZS 60695.2.11, *Fire hazard testing, Part 2.11: Glowing/hot wire based test methods—Glow-wire flammability test method for end-products* -AS/NZS 60695.11.5, *Fire hazard testing, Part 11.5: Test flames—Needle-flame test method—Apparatus, confirmatory test arrangement and guidance*	Considered.	P

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Only the version on the IECEE Website is the current document version.

IEC62368_1D ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	-AS/NZS 60695.11.10, *Fire hazard testing, Part 11.10: Test flames—50 W horizontal and vertical flame test methods* -AS/NZS 60884.1, *Plugs and socket-outlets for household and similar purposes, Part 1: General requirements* -AS/NZS 60950.1:2015, *Information technology equipment—Safety*, Part 1: *General requirements (IEC 60950-1, Ed.2.2 (2013), MOD)* IEC 61032:1997, *Protection of persons and equipment by enclosures—Probes for verification* -AS/NZS 61558.1:2008 (including Amendment 2:2015), *Safety of Power Transformers, Power Supplies, Reactors and Similar Products, Part 1: General requirements and tests (IEC 61558-1 Ed 2.1, MOD)* -AS/NZS 61558.2.16, *Safety of transformers, reactors, power supply units and similar products for voltages up to 1 100 V, Part 2.16: Particular requirements and tests for switch mode power supply units and transformers for switch mode power supply units.*		
4.1.1	**Application of requirements and acceptance of materials, components and subassemblies** 1 *Replace* the text 'IEC 60950-1' with 'AS/NZS 60950.1:2015'. 2 *Replace* the text 'IEC 60065' with 'AS/NZS 60065'.	Considered for TFT panel. Its separately approved according to IEC 60950-1 and additionally evaluated in the appliance according to requirements of AS/NZS 60950.1.	P
4.7	**Equipment for direct insertion into mains socket-outlets**		N/A
4.7.2	**Requirements** *Delete* the text of the second paragraph and *replace* with the following: Equipment with a plug portion, suitable for insertion into a 10 A 3-pin flat-pin socket-outlet complying with AS/NZS 3112 shall comply with the requirements in AS/NZS 3112 for equipment with integral pins for insertion into socket-outlets.	Not a direct plug-in equipment.	N/A
4.7.3	**Compliance Criteria** *Delete* the first paragraph and Note 1 and Note 2 and *replace* with the following: *Compliance is checked by inspection and, if necessary, by the tests in AS/NZS 3112.*		N/A
4.8	*Delete* existing clause title and *replace* with the following: **4.8 Products containing coin/button cell batteries**		N/A

Report No.: **466002**

<table>
<tr><td colspan="4">IEC62368_1D ATTACHMENT</td></tr>
<tr><td>Clause</td><td>Requirement + Test</td><td>Result - Remark</td><td>Verdict</td></tr>
<tr><td>4.8.1</td><td>General
1 Second dashed point, delete the text and replace with the following:
– include coin/button cell batteries with a diameter of 32 mm or less.
2 After the second dashed point, insert the following Note:
NOTE 1: Batteries are specified in IEC 60086-2.
3 After the third dashed point, renumber the existing Note as ‘NOTE 2’.
4 Fifth dashed point, delete the word ‘lithium’.</td><td></td><td>N/A</td></tr>
<tr><td>4.8.2</td><td>Instructional Safeguard
First line, delete the word ‘lithium’.</td><td></td><td>N/A</td></tr>
<tr><td>4.8.3</td><td>Construction
First line, after the word ‘Equipment’ insert the words ‘containing one or more coin/button batteries and’</td><td></td><td>N/A</td></tr>
<tr><td>4.8.5</td><td>Compliance criteria
Delete the first paragraph and replace with the following:
Compliance is checked by applying a force of 30 N +/-1 N for 10 s to the battery compartment door/cover by a rigid test finger according to test probe 11 of IEC 61032:1997 at the most unfavourable place and in the most unfavourable direction. The force shall be applied in one direction at a time.</td><td></td><td>N/A</td></tr>
<tr><td>5.4.10.2</td><td>Test methods</td><td></td><td>N/A</td></tr>
<tr><td>5.4.10.2.1</td><td>General
Delete the first paragraph and replace with the following:
In Australia only, the separation is checked by the test of both Clause 5.4.10.2.2 and Clause 5.4.10.2.3. In New Zealand, the separation is checked by the test of either Clause 5.4.10.2.2 or Clause 5.4.10.2.3.</td><td></td><td>N/A</td></tr>
<tr><td>Table 29</td><td>Replace the table with the following:</td><td></td><td>N/A</td></tr>
<tr><td colspan="4">
<table>
<tr><td rowspan="2">Parts</td><td colspan="2">Impulse test</td><td colspan="2">Steady state test</td></tr>
<tr><td>New Zealand</td><td>Australia</td><td>New Zealand</td><td>Australia</td></tr>
<tr><td>Parts indicated in Clause 5.4.10.1 a) [a]</td><td>2.5 kV 10/700 µs</td><td>7.0 kV for hand-held telephones and headsets, 2.5 kV for other equipment. 10/700 µs</td><td>1.5 kV</td><td>3 kV</td></tr>
<tr><td>Parts indicated in Clause 5.4.10.1 b) and c) [b]</td><td colspan="2">1.5 kV 10/700 µs [c]</td><td>1.0 kV</td><td>1.5 kV</td></tr>
<tr><td colspan="5">[a] Surge suppressors shall not be removed.
[b] Surge suppressors may be removed, provided that such devices pass the impulse test of Clause 5.4.10.2.2 when tested as components outside the equipment.
[c] During this test, it is allowed for a surge suppressor to operate and for a sparkover to occur in a GDT.</td></tr>
</table>
</td></tr>
</table>

IEC62368_1D ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
5.4.10.2.2	After the first paragraph, *insert* new Notes 201 and 202 as follows: NOTE 201 For Australia, the 7 kV impulse simulates lightning surges on typical rural and semi-rural network lines. NOTE 202 For Australia, the value of 2.5 kV for Clause 5.4.10.1 a) was chosen to ensure the adequacy of the insulation concerned and does not necessarily simulate likely overvoltages.		N/A
5.4.10.2.3	After the first paragraph, *insert* new Notes 201 and 202 as follows: NOTE 201 For Australia, where there are capacitors across the insulation under test, it is recommended that d.c. test voltages are used. NOTE 202 The 3 kV and 1.5 kV values for Australia have been determined considering the low frequency induced voltages from the power supply distribution system.		N/A
6	**Electrically-caused fire**		P
6.1	**General** After the first paragraph, *insert* the following new paragraph: Alternatively, the requirements of Clauses 6.2 to 6.5.2 are considered to be fulfilled if the equipment complies with the requirements of Clause 6.202	Requirements of IEC standard applied.	P
6.6	After Clause 6.6, *add* the new Clauses 6.201 and 6.202 as follows: **6.201 External power supplies, docking stations and other similar devices** and **6.202 Resistance to fire—Alternative tests** (see special national conditions)		N/A
8.5.4	**Special categories of equipment comprising moving parts**		N/A
8.5.4.1	**Large data storage equipment** In the first dashed row and the second dashed rows *replace* 'IEC 60950-1:2005' with 'AS/NZS 60950.1:2015'.		N/A
8.6	**Stability of equipment**		N/A

IEC62368_1D ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
8.6.1 and Table 36	**Requirements** 1. Table 36, *insert* Footnote c at the end of the 'Glass slide' heading, and *add* a new Footnote c after the text of Footnote b in the last row of Table 36 as follows: [c] The glass slide test is not applicable to floor standing equipment, even though the equipment may have controls or a display. 2. Table 36, fifth row, *insert* '[201]' at the end of 'No stability requirements' 3. Table 36, ninth row, *insert* '[201]' at the end of 'No stability requirements' 4. Table 36, *add* the following new footnote: [201] MS2 and MS3 television sets and display devices, designed only for fixing to a wall, ceiling or equipment rack, are not subjected to stability requirements only if the instructional safeguard of Clause 8.6.1.201 is provided. Otherwise, the glass slide requirements of Clause 8.6.4 and horizontal force requirements of Clause 8.6.5 apply. 5. Second paragraph beneath Table 36, *delete* the words 'MS2 and MS3 television sets' and *replace* with 'MS2 and MS3 television sets and display devices'	Fixed equipment.	N/A
8.6.1	After Clause 8.6.1 *add* the following new clauses: **8.6.1.201 Instructional safeguard for fixed-mount television sets** (see special national conditions)		N/A
Annex F **Paragraph F.3.5.1**	**Mains appliance outlet and socket-outlet markings** *Replace* 'IEC 60320-2-2' with 'AS/NZS 60320.2.2'.		N/A
Annex G **Paragraph G.4.2**	**Mains connectors** 1 In the second line *insert* 'or AS/NZS 3123' after 'IEC 60906-1'. 2 In the second line *insert* 'or AS/NZS 60320 series' after 'IEC 60320 series' 3 *Add* the following new paragraph: 10 A or 15 A 250 V flat pin plugs for the connection of equipment to mains-powered socket-outlets for household or similar general use shall comply with AS/NZS 3112 or AS/NZS 60884.1.	See comment for Annex G.4 inside Summary of testing.	P
Paragraph G.5.3.1	**Transformers, General** 1 In the third dashed point *replace* 'IEC 61558-1 and the relevant parts of IEC 61558-2' with 'AS/NZS 61558-1 and the relevant parts of AS/NZS 61558.2' 2 In the fourth dashed point *replace* 'IEC 61558-2-16' with 'AS/NZS 61558.2.16'.		N/A
Paragraph G.7.1	**Mains supply cords, General** In the fourth dashed paragraph, *replace* 'IEC 60320-1' with 'AS/NZS 60320.1'		N/A

IEC62368_1D ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
Table G.5	**Sizes of conductors** 1 In the second row, first column, *delete* '6' and *replace* with '7.5' 2 In the second row, second column, *delete* '0,75' and *replace* with '0.75[b] 3 *Delete* Note 1. 4 *Replace* 'NOTE 2' with 'NOTE:'. 5 *Delete* the text of 'Footnote b' and *replace* with the following: [b] This nominal cross-sectional area is only allowed for Class II appliances if the length of the power supply cord, measured between the point where the cord, or cord guard, enters the appliance, and the entry to the plug does not exceed 2 m (0.5 mm2 three-core supply flexible cords are not permitted; see AS/NZS 3191). 6 In Footnote c *replace* 'IEC 60320-1' with 'AS/NZS 60320.1' 7 In Footnote d *replace* 'IEC 60320-1' with 'AS/NZS 60320.1'		N/A
Annex M **Paragraph M.3.2**	**Protection circuits for batteries provided within the equipment, Test method** After the first dashed point *add* the following Note: NOTE 201: In cases where the voltage source is provided by power from an unassociated power source, consideration should be given to the effects of possible single fault conditions in the unassociated equipment. If the power source is unknown then it should be assumed that the maximum limit of SELV may be applied to the source input under assumed single fault conditions in the source when assessing the charging circuit in the equipment under test.	Battery is mounted on PC board and it is not influenced from external voltages.	N/A
	Special national conditions (if any)		N/A

IEC62368_1D ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
6.201	**External power supplies, docking stations and other similar devices** For external power supplies, docking stations and other similar devices, during and after abnormal operating conditions and during single fault conditions the output voltage— – at all ES1 outlets or connectors shall not increase by more than 10% of its rated output voltage under normal operating condition; and – of a USB outlet or connector shall not increase by more than 3 V or 10% of its rated output voltage under normal operating conditions, whichever is higher. For equipment with multiple rated output voltages, the requirements apply with the equipment configured for each rated output voltage in turn. NOTE: This is intended to reduce the possibility of battery fire or explosion in attached equipment or accessories when charging secondary lithium batteries. *Compliance shall be checked by measurement, taking into account the abnormal operating conditions of Annex B.3 and the simulated single-fault conditions of Annex B.4*		N/A
6.202	**Resistance to fire—Alternative tests**		N/A
6.202.1	**General** Parts of non-metallic material shall be resistant to ignition and spread of fire. This requirement does not apply to decorative trims, knobs and other parts unlikely to be ignited or to propagate flames from inside the equipment, or the following: a) Components that are contained in an enclosure having a flammability category of V-0 according to AS/NZS 60695.11.10 and having openings only for the connecting wires filling the openings completely, and for ventilation not exceeding 1 mm in width regardless of length. b) The following parts which would contribute negligible fuel to a fire: – small mechanical parts, the mass of which does not exceed 4 g, such as mounting parts, gears, cams, belts and bearings; – small electrical components, such as capacitors with a volume not exceeding 1 750 mm3, integrated circuits, transistors and optocoupler packages, if these components are mounted on material of flammability category V-1, or better, according to AS/NZS 60695.11.10. NOTE: In considering how to minimize propagation of fire and what 'small parts' are, account should be taken of the cumulative effect of small parts adjacent to each other for the possible effect of propagating the fire from one part to another.		N/A

<table>
<tr><td colspan="4">IEC62368_1D ATTACHMENT</td></tr>
<tr><td>Clause</td><td>Requirement + Test</td><td>Result - Remark</td><td>Verdict</td></tr>
<tr><td></td><td></td><td></td><td></td></tr>
<tr><td></td><td>Compliance shall be checked by the tests of Clauses 6.202.2, 6.202.3 and 6.202.4.
For the base material of printed boards, compliance shall be checked by the test of Clause 6.202.5.
The tests shall be carried out on parts of non-metallic material which have been removed from the equipment. When the glow-wire test is carried out, the parts shall be placed in the same orientation as they would be in normal use.
These tests are not carried out on internal wiring.</td><td></td><td>N/A</td></tr>
<tr><td>6.202.2</td><td>Testing of non-metallic materials
Parts of non-metallic material shall be subject to the glow-wire test of AS/NZS 60695.2.11 which shall be carried out at 550°C.
Parts for which the glow-wire test cannot be carried out, such as those made of soft or foamy material, shall meet the requirements specified in ISO 9772 for category FH-3 material. The glow-wire test shall be not carried out on parts of material classified at least FH-3 according to ISO 9772 provided that the relevant part is not thinner than the sample tested.</td><td></td><td>N/A</td></tr>
<tr><td>6.202.3</td><td>Testing of insulating materials
Parts of insulating material supporting Potential Ignition Sources shall be subject
to the glow-wire test of AS/NZS 60695.2.11 which shall be carried out at 750°C.
The test shall be also carried out on other parts of insulating material which are
within a distance of 3 mm of the connection.
NOTE: Contacts in components such as switch contacts are considered to be connections</td><td></td><td>N/A</td></tr>
<tr><td></td><td>For parts which withstand the glow-wire test but produce a flame, other parts above the connection within the envelope of a vertical cylinder having a diameter of 20 mm and a height of 50 mm shall be subjected to the needle-flame test.
However, parts shielded by a barrier which meets the needle-flame test need not be tested</td><td></td><td>N/A</td></tr>
<tr><td></td><td>The needle-flame test shall be made in accordance with AS/NZS 60695.11.5 with the following modifications:
<table>
<tr><td>Clause of AS/NZS 60695.11.5</td><td>Change</td></tr>
<tr><td>9 Test procedure</td><td></td></tr>
<tr><td>9.2 Application of needle-flame</td><td>Delete the first and second paragraphs and replace with the following:
The specimen shall be arranged so that the</td></tr>
</table></td><td></td><td>N/A</td></tr>
</table>

IEC62368_1D ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	flame can be applied to a vertical or horizontal edge as shown in the examples of Figure 1. If possible the flame shall be applied at least 10 mm from a corner. The duration of application of the test flame shall be 30 s □1 s.		
	9.3 Number of test specimens: *Replace* with the following: The test shall be made on one specimen. If the specimen does not withstand the test, the test may be repeated on two further specimens, both of which shall withstand the test.		
	11 Evaluation of test results: *Replace* with the following: The duration of burning (tb) shall not exceed 30 s. However, for printed circuit boards, it shall not exceed 15 s.		
	The needle-flame test shall not be carried out on parts of material classified as V-0 or V-1 according to AS/NZS 60695.11.10, provided that the relevant part is not thinner than the sample tested.		
6.202.4	**Testing in the event of non-extinguishing material** If parts, other than enclosures, do not withstand the glow wire tests of Clause 6.202.3, by failure to extinguish within 30 s after the removal of the glow wire tip, the needle-flame test detailed in Clause 6.202.3 shall be made on all parts of non-metallic material which are within a distance of 50 mm or which are likely to be impinged upon by flame during the tests of Clause 6.202.3. Parts shielded by a separate barrier which meets the needle-flame test need not be tested. NOTE 1: If the enclosure does not withstand the glow-wire test the equipment is considered to have failed to meet the requirements of Clause 6.202 without the need for consequential testing. NOTE 2: If other parts do not withstand the glow-wire test due		N/A

IEC62368_1D ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	to ignition of the tissue paper and if this indicates that burning or glowing particles can fall onto an external surface underneath the equipment, the equipment is considered to have failed to meet the requirements of Clause 6.202 without the need for consequential testing. NOTE 3: Parts likely to be impinged upon by the flame are considered to be those within the envelope of a vertical cylinder having a radius of 10 mm and a height equal to the height of the flame, positioned above the point of the material supporting, in contact with, or in close proximity to, connections.		
6.202.5	**Testing of printed boards** The base material of printed boards shall be subjected to the needle-flame test of Clause 6.202.3. The flame shall be applied to the edge of the board where the heat sink effect is lowest when the board is positioned as in normal use. The flame shall not be applied to an edge, consisting of broken perforations, unless the edge is less than 3 mm from a potential ignition source. The test is not carried out if— – the printed board does not carry any potential ignition source; – the base material of printed boards, on which the available apparent power at a connection exceeds 15 VA operating at a voltage exceeding 50 V and equal or less than 400 V (peak) a.c. or d.c. under normal operating conditions, is of flammability category V-1 or better according to AS/NZS 60695.11.10, or the printed boards are protected by an enclosure meeting the flammability category V-0 according to AS/NZS 60695.11.10, or made of metal, having openings only for connecting wires which fill the openings completely; or – the base material of printed boards, on which the available equipment power at a connection exceeds 15 VA operating at a voltage exceeding 400 V (peak) a.c. or d.c. under normal operating conditions, and base material of printed boards supporting spark gaps which provides protection against overvoltages, is of flammability category V-0 according to AS/NZS 60695.11.10 or the printed boards are contained in a metal enclosure, having openings only for connecting wires which fill the openings completely. *Conformance shall be determined using the smallest thickness of the material.* NOTE: Available apparent power is the maximum apparent power which can be drawn from the supplying circuit through a resistive load whose value is chosen to maximize the apparent power for more than 2 min when the circuit supplied is disconnected.		N/A
6.202.6	**For open circuit voltages greater than 4 kV** Potential ignition sources with open circuit voltages exceeding 4 kV (peak) a.c. or d.c. under normal operating conditions shall be contained in a FIRE ENCLOSURE which shall comply with flammability category V-1 or better according to AS/NZS 60695.11.10.		N/A

IEC62368_1D ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
8.6.1.201	**8.6.1.201 Instructional safeguard for fixed-mount television sets** MS2 and MS3 television sets and display devices designed only for fixed mounting to a wall of ceiling or equipment rack shall, where required in Table 36, footnote 201, have an instructional safeguard in accordance with Clause F.5 which may be on the equipment or included in the installation instructions or equivalent document accompanying the equipment. The elements of the instructional safeguard shall be as follows: – element 1a: not available; – element 2: 'Stability Hazard' or equivalent wording; – element 3: 'The television set may fall, causing serious personal injury or death' or equivalent text; – element 4: the following or equivalent text: To prevent injury, this television set must be securely attached to the floor/wall in accordance with the installation instructions		N/A
8.6.1.202	**Restraining device** MS2 and MS3 television sets and display devices that are not solely fixed-mounted should be provided with a restraining device such as a fixing point to facilitate restraining the equipment from toppling forward. The restraining device shall be capable of withstanding a pull of 100 N in all directions without damage. Where a restraining device is provided, instructions shall be provided in the instructions for installation or instructions for use to ensure correct and safe installation.		N/A

IEC60950_1G ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

ATTACHMENT TO TEST REPORT IEC 60950-1
(AUSTRALIA/NEW ZEALAND) NATIONAL DIFFERENCES
(Information technology equipment-safety)

Differences according to .....:	AS/NZS 60950.1:2015
TRF template used:	IECEE OD-2020-F3, Ed. 1.1
Attachment Form No. .....:	AU_NZ_ND_IEC60950_1G
Attachment Originator .....:	JAS-ANZ
Master Attachment .....:	2021-04-19

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	National Differences		P
Appendix ZZ	Variations to IEC 60950-1, Ed 2.2 (2013) for Australia and New Zealand		P
1.2	**DEFINITIONS**		P
	After definition 'PERSON, SERVICE', insert the following new definition: POTENTIAL IGNITION SOURCE…….1.2.12.201	Considered.	P
1.5	**COMPONENTS**		P
1.5.1	1. First paragraph, insert the following text after the words 'IEC component standard: or the relevant Australian/New Zealand Standard 2 In the Note, insert the following text after the word standard: or the relevant Australian/New Zealand Standard 3 Second paragraph, delete the words 'without further evaluation'	Considered, component of TFT display have been tested in the appliance according to IEC 60950-1 standard.	P
1.5.2	1 ... First paragraph, insert the following text after the word 'standard' or an Australian/New Zealand Standard 2 ... First paragraph, second dash item, second line, insert the following text after the word 'standard' or an Australian/New Zealand Standard 3 ... First paragraph, second dash item, last line, insert the following text after the word 'standard': or an Australian/New Zealand Standard	See above.	P
1.7	**MARKINGS AND INSTRUCTIONS**	TFT panel has been evaluated as a part of end product.	N/A

<table>
<tr><td></td><td></td><td></td><td></td></tr>
<tr><td>1.7.1.3</td><td>Delete existing text and replace with the following:
Graphical symbols placed on the equipment as a requirement of this standard, shall be in accordance with IEC 60417 or ISO 3864-2 or ISO 7000, if available. In the absence of suitable symbols, the manufacturer may design specific graphical symbols.
Symbols as required by this standard placed on the equipment shall be explained in the user manual</td><td></td><td>N/A</td></tr>
<tr><td>2.9</td><td>ELECTRICAL INSULATION</td><td></td><td>P</td></tr>
<tr><td>2.9.2</td><td>Variation
Second paragraph, delete the word ‘designated’</td><td>Considered.</td><td>P</td></tr>
<tr><td>3.2.5</td><td>POWER SUPPLY CORDS</td><td></td><td>N/A</td></tr>
<tr><td>Table 3B</td><td>Variation
1. Delete the first four rows and replace with the following:
<table>
<tr><td>Over 0.2 up to and including 3</td><td>0.5[a]</td><td>18
[0.8]</td></tr>
<tr><td>Over 3 up to and including 7.5</td><td>0.75</td><td>16
[1.3]</td></tr>
<tr><td>Over 7.5 up to including 10</td><td>(0.75)[b]
1.00</td><td>16
[1.3]</td></tr>
<tr><td>Over 10 up to including 16</td><td>(1.0)[c]
1.5</td><td>14
[2]</td></tr>
</table></td><td>TFT panel has been evaluated as a part of end product.</td><td>N/A</td></tr>
<tr><td></td><td>2. Delete NOTE 1 and renumber existing NOTE 2 as ‘NOTE’</td><td></td><td>N/A</td></tr>
<tr><td></td><td>3. Delete Footnote [a] and replace with the following:
[a] This nominal cross-sectional area is only allowed for Class II appliances if the length of the power supply cord, measured between the point where the cord, or cord guard, enters the appliance, and the to the plug does not exceed 2 m (0,5 mm2 three-core supply flexible cords are not permitted; see AS/NZS 3191)</td><td></td><td>N/A</td></tr>
<tr><td>4.3</td><td>DESIGN AND CONSTRUCTION</td><td></td><td>P</td></tr>
<tr><td>4.3.6</td><td>Variation
Delete the third paragraph and replace with the following:</td><td>Not a direct plug-in equipment.</td><td>N/A</td></tr>
<tr><td></td><td>Equipment with a plug portion, suitable for insertion into a 10 A 3-pin flat-pin socket-outlet complying with AS/NZS 3112 shall comply with the requirements in AS/NZS 3112 for equipment with integral pins for insertion into socket-outlets</td><td></td><td>N/A</td></tr>
<tr><td>4.3.8</td><td>Addition
Eighth paragraph, insert the following new note after the first dash item:</td><td></td><td>N/A</td></tr>
</table>

	NOTE 6.201 In cases where the voltage source is provided by power from an unassociated power source, consideration should be given to the effects of possible single fault conditions in the unassociated equipment. If the power source is unknown then it should be assumed that the maximum limit of SELV may be applied to the source input under assumed single fault conditions in the source when assessing the charging circuit in the equipment under test.		N/A
4.3.13.5.1	Variation *Delete* the first paragraph and *replace* with the following: Except as permitted below, equipment shall be classified and labelled according to IEC 60825-1 or AS/NZS 60825.1, IEC 60825-2 or AS/NZS 60825.2 and IEC 60825-12, as applicable	No laser.	N/A
	Third paragraph, first sentence, after 'IEC 60825-1', *insert* the following text: or AS/NZS 60825.1		N/A
	Fourth paragraph, after 'IEC 60825-1', *insert* the following text: or AS/NZS 60825.1		N/A
4.7	**RESISTANCE TO FIRE**		P
4.7	Addition At the end of Clause 4.7, *insert* the following text: For alternate tests refer to Clause 4.7.201	Considered.	P
6	**CONNECTION TO TELECOMMUNICATIONS NETWORKS**		N/A
6.2.2	Variation For Australia only, *delete* the first paragraph and Note, and *replace* with the following: In Australia only, compliance with 6.2.2 shall be checked by the tests of both 6.2.2.1 and 6.2.2.2	No connection to telecommunication network.	N/A
6.2.2.1	Variation For Australia only, *delete* the first paragraph including the Notes, and *replace* with the following: In Australia only, the electrical separation is subjected to 10 impulses of alternating polarity, using the impulse test generator Reference 1 of Table N.1. The interval between successive impulses is 60 s and the initial voltage, Uc, is: (i) for 6.2.1 a): 7.0 kV for hand-held telephones and for headsets and 2.5 kV for other equipment; and (ii) For 6.2.1 b) and 6.2.1 c): 1.5kV		N/A
	NOTE 201 The 7 kV impulse simulates lightning surges on typical rural and semi-rural network lines		N/A
	NOTE 202 The value of 2.5 kV for 6.2.1 a) was chosen to ensure the adequacy of the insulation concerned and does not necessarily simulate likely overvoltages		N/A
6.2.2.2	Variation For Australia only, delete the second paragraph including the Note, and replace with the following: In Australia only, the a.c. test voltage is (i) for 6.2.1 a): 3kV; and (ii) for 6.2.1b) and 6.2.1c): 1.5kV		N/A

	NOTE 201 Where there are capacitors across the insulation under test, it is recommended that d.c. test voltages are used.		N/A
	NOTE 202 The 3 kV and 1.5 kV values have been determined considering the low frequency induced voltages from the power supply distribution system.		N/A
7	**CONNECTION TO CABLE DISTRIBUTION NETWORK**		N/A
7.3	Addition *Add* the following before the first paragraph: Equipment providing functions that fall only within the scope of AS/NZS 60065 and that incorporate a PSTN interface, are not required to comply with this Clause where the only ports provided on the equipment, in addition to a coaxial cable connection and a PSTN interface, are audio or video ports and analogue or data ports not intended to be used for telecommunications purposes	No connection to cable distribution network.	N/A
Annex P	Addition *Add* the following Normative References: AS/NZS 3191, Electric flexible cords AS/NZS 3112, Approval and test specification—Plugs and socket-outlets		N/A

	Special national conditions (if any)		P
1.2.12	**FLAMMABILITY**		P
1.2.12.15	Addition After Clause 1.2.12.15, *insert* the following new clause:		P
1.2.12.201	**POTENTIAL IGNITION SOURCE** Possible fault which can start a fire if the open-circuit voltage measured across an interruption or faulty contact exceeds a value of 50 V (peak) a.c. or d.c. and the product of the peak value of this voltage and the measured r.m.s. current under normal operating conditions exceeds 15 VA	All parts have been considered as Potential ignition sources.	P
	Such a faulty contact or interruption in an electrical connection includes those which may occur in CONDUCTIVE PATTERNS on PRINTED BOARDS		P
	NOTE 1 An electronic protection circuit may be used to prevent such a fault from becoming a POTENTIAL IGNITION SOURCE		P
	NOTE 2 This definition is from AS/NZS 60065:2012, Clause 2.8.11.		P
4	**PHYSICAL REQUIREMENTS**		P
4.1	Addition After Clause 4.1, *insert* new Clause 4.1.201 as follows:		P

4.1.201	**Display devices used for television purposes** Display devices which may be used for television purposes, with a mass of 7 kg or more, shall comply with the requirements for stability and mechanical hazards, including the additional stability requirements for television receivers, specified in AS/NZS 60065	TFT panel has been evaluated as a part of end product.	N/A
4.3	**DESIGN AND CONSTRUCTION**		P
4.3.8	Addition After Clause 4.3.8, *add* the following new clause as follows		N/A
4.3.8.201	**Products containing coin/button cell batteries and batteries designated R1** The requirements of AS/NZS 60065:2012 Amendment 1:2015, Clause 14.10.201 apply for this Clause.	No batteries inside TFT panel	N/A
4.7	**RESISTANCE TO FIRE**		P
4.7.3.6	Addition After Clause 4.7.3.6, *add* new clauses as follows:		P
4.7.201	**Resistance to fire—Alternative tests**	Requirements of IEC standard applied.	N/A
4.7.201.1	**General** Parts of non-metallic material shall be resistant to ignition and spread of fire. This requirement does not apply to decorative trims, knobs and other parts unlikely to be ignited or to propagate flames from inside the apparatus, or the following: a) Components that are contained in an enclosure having a flammability category of V-0 according to AS/NZS 60695.11.10 and having openings only for the connecting wires filling the openings completely, and for ventilation not exceeding 1 mm in width regardless of length.		N/A
	b) The following parts which would contribute negligible fuel to a fire: – small mechanical parts, the mass of which does not exceed 4 g, such as mounting parts, gears, cams, belts and bearings; – small electrical components, such as capacitors with a volume not exceeding 1,750 mm3, integrated circuits, transistors and optocoupler packages, if these components are mounted on material of flammability category V-1, or better, according to AS/NZS 60695.11.10		N/A
	NOTE In considering how to minimize propagation of fire and what 'small parts are, account should be taken of the cumulative effect of small parts adjacent to each other for the possible effect of propagating the fire from one part to another		N/A
	Compliance shall be checked by the tests of 4.7.201.2, 4.7.201.3, 4.7.201.4 and 4.7.201.5		N/A
	For the base material of printed boards, compliance shall be checked by the test of 4.7.201.5		N/A

	The tests shall be carried out on parts of non-metallic material which have been removed from the apparatus. When the glow-wire test is carried out, the parts shall be placed in the same orientation as they would be in normal use. These tests are not carried out on internal wiring		N/A
4.7.201.2	**Testing of non-metallic materials** Parts of non-metallic material shall be subject to the glow-wire test of AS/NZS 60695.2.11 which shall be carried out at 550°C Parts for which the glow-wire test cannot be carried out, such as those made of soft or foamy material, shall meet the requirements specified in ISO 9772 for category FH-3 material. The glow-wire test shall be not carried out on parts of material classified at least FH-3 according to ISO 9772 provided that the sample tested was not thicker than the relevant part.		N/A
4.7.201.3	**Testing of insulating materials** Parts of insulating material supporting POTENTIAL IGNITION SOURCES shall be subject to the glow-wire test of AS/NZS 60695.2.11 which shall be carried out at 750°C. The test shall be also carried out on other parts of insulating material which are within a distance of 3 mm of the connection. NOTE Contacts in components such as switch contacts are considered to be connections. For parts which withstand the glow-wire test but produce a flame, other parts above the connection within the envelope of a vertical cylinder having a diameter of 20 mm and a height of 50 mm shall be subjected to the needle-flame test. However, parts shielded by a barrier which meets the needle-flame test shall not be tested. The needle-flame test shall be made in accordance with AS/NZS 60695.11.5 with the following modifications:		N/A

	Clause of AS/NZS 60695.11.5	**Change**	N/A
	9 Test procedure		
	9.2 Application of Needle-flame	*Delete* the first and second paragraphs and *replace* with the following: The specimen shall be arranged so that the flame can be applied to a vertical or horizontal edge as shown in the examples of Figure 1. If possible the flame shall be applied at least 10 mm from a corner. The duration of application of the test flame shall be 30 s ± 1 s	
	9.3 Number of test specimens	*Delete* existing text and *replace* with the following: The test shall be made on one specimen. If the specimen does not withstand the test, the test may be repeated on two further specimens, both of which shall withstand the test.	
	11 Evaluation of test results	*Delete* existing text and *replace* with the following: The duration of burning (tb) shall not exceed 30 s. However, for printed circuit boards, it shall not exceed 15s	
	The needle-flame test shall not be carried out on parts of material classified as V-0 or V-1 according to AS/NZS 60695.11.10, provided that the sample tested was not thicker than the reevant part		N/A
4.7.201.4	**Testing in the event of non-extinguishing material** If parts, other than enclosures, do not withstand the glow wire tests of 4.7.201.3 by failure to extinguish within 30 s after the removal of the glow-wire tip, the needle-flame test detailed in 4.7.201.3 shall be made on all parts of non-metallic material which are within a distance of 50 mm or which are likely to be impinged upon by flame during the tests of 4.7.201.3. Parts shielded by a separate barrier which meets the needle-flame test need not be tested.		N/A

	NOTE 1 If the enclosure does not withstand the glow-wire test the equipment is considered to have failed to meet the requirements of Clause 4.7.201 without the need for consequential testing.		N/A
	NOTE 2 If other parts do not withstand the glow-wire test due to ignition of the tissue paper and if this indicates that burning or glowing particles can fall onto an external surface underneath the equipment, the equipment is considered to have failed to meet the requirements of Clause 4.7.201 without the need for consequential testing		N/A
	NOTE 3 Parts likely to be impinged upon by the flame are considered to be those within the envelope of a vertical cylinder having a radius of 10 mm and a height equal to the height of the flame, positioned above the point of the material supporting, in contact with, or in close proximity to, connections.		N/A
4.7.201.5	**Testing of printed boards** The base material of printed boards shall be subjected to the needle-flame test of Clause 4.7.201.3. The flame shall be applied to the edge of the board where the heat sink effect is lowest when the board is positioned as in normal use. The flame shall not be applied to an edge, consisting of broken perforations, unless the edge is less than 3 mm from a POTENTIAL IGNITION SOURCE.		N/A
	The test is not carried out if the – Printed board does not carry any POTENTIAL IGNITION SOURCE; – Base material of printed boards, on which the available apparent power at a connection exceeds 15 VA operating at a voltage exceeding 50 V and equal or less than 400 V (peak) a.c. or d.c. under normal operating conditions, is of flammability category V-1 or better according to AS/NZS 60695.11.10, or the printed boards are protected by an enclosure meeting the flammability category V-0 according to AS/NZS 60695.11.10, or made of metal, having openings only for connecting wires which fill the openings completely; or – Base material of printed boards, on which the available apparatus power at a connection exceeds 15 VA operating at a voltage exceeding 400 V (peak) a.c. or d.c. under normal operating conditions, and base material of printed boards supporting spark gaps which provides protection against overvoltages, is of flammability category V-0 according to AS/NZS 60695.11.10 or the printed boards are contained in a metal enclosure, having openings only for connecting wires which fill the openings completely . *Compliance shall be determined using the smallest thickness of the material.*		N/A
	NOTE Available apparent power is the maximum apparent power which can be drawn from the supplying circuit through a resistive load whose value is chosen to maximise the apparent power for more than 2 m when the circuit supplied is disconnected.		N/A

- End of report -